

bulletin

of the international society of soil science

bulletin

de l'association internationale de la science du sol

mitteilungen

der internationalen bodenkundlichen gesellschaft

No. 50

1976/2

---

**INTERNATIONAL SOCIETY OF SOIL SCIENCE  
ASSOCIATION INTERNATIONALE DE LA SCIENCE DU SOL  
INTERNATIONALE BODENKUNDLICHE GESELLSCHAFT**

Secretariat general/Secrétariat général/Generalsekretariat  
c/o FAO Via delle Terme di Caracalla - 00153 Roma, Italia - telegram. Dudal Foodagri Roma

**President/Président/Präsident**

Prof. Dr. C.F. Bentley, Department of Soil Science, University of Alberta,  
Edmonton, Alberta, Canada

**Vice-President/Vice-Président/Vizepräsident**

Prof. Dr. J.A. Toogood, Department of Soil Science, University of Alberta,  
Edmonton, Alberta, Canada

**Past-President/Ancien Président/Altpräsident**

Prof. Dr. V.A. Kovda, Faculty of Soil Science, Moscow State University,  
Moscow V-234, U.S.S.R.

**Secretary General/Secrétaire général/Generalsekretär**

Dr. R. Dudal, c/o FAO, Via delle Terme di Caracalla, 00153 Roma, Italia

**Deputy Secretary General/Secrétaire général adjoint/Stellvertretender Generalsekretär**

Dr. I. Szabolcs, Research Institute of Soil Science and Agricultural Chemistry,  
Herman Ottó út 15, Budapest 11, Hungary

**Honorary Members/Membres Honoraires/Ehrenmitglieder**

Dr. R. Bradfield, 1715 N.W. 22nd Terrace, Gainesville, Florida 32601, U.S.A.

Prof. Dr. F. Hardy, Bel Air, Circular Road, St. Augustine, Trinidad

Dr. G.V. Jacks, Com. Bureau of Soil Science, Rothamsted Exp. St. Harpenden, Herts, U.K.

Dr. Ch. E. Kellogg, 4100 Nicholson Str., Hyattsville, Maryland 20782, U.S.A.

Prof. Dr. M.M. Kononova, Inst. Pédologique, Acad. des Sci., Pyjevski 7, Moscow-17, U.S.S.R.

Prof. Dr. S. Mattson, Bastad, Sweden

Prof. A. Oudin, 42 Avenue de Saxe, Paris-7e, France

Prof. J.A. Prescott, 6/2 Netherby Avenue, Netherby, S.A. 5062, Australia

Dr. L.A. Richards, 4455 Fifth St., Riverside, California 92501, U.S.A.

Prof. Dr. A.A. Rode, Dokuchaev Institute of Soil Science, Pyjevski 7, Moscow-17, U.S.S.R.

Prof. Dr. h.c. F. Scheffer, Institut für Bodenkunde der Universität Göttingen, 34 Göttingen  
Von-Siebold-Str. 4, Bundesrepublik Deutschland

**Commissions/Commissions/Kommissionen - Chairmen/Présidents/Vorzitzende**

**I - Soil physics/Physique du sol/Bodenphysik**

Prof. Dr. M.F. de Boodt, State Agricultural University, Coupure 533, 9000 Gent, Belgique

**II - Soil chemistry/Chimie du sol/Bodenchemie**

Prof. Dr. W. Flaig, Institut für Biochemie des Bodens, Forschungsanstalt für Landwirtschaft,  
Bundesallee 50, 3301 Braunschweig, Bundesrepublik Deutschland

**III - Soil biology/Biologie du sol/Bodenbiologie**

Prof. Dr. sc. agr., Dr. h.c., G. Müller, Bodenkunde u. Mikrobiologie  
Martin-Luther-Universität Halle, 402 Halle, Weidenplan 14, Deutsche Demokratische Republik

**IV - Soil fertility and plant nutrition/Fertilité du sol et nutrition des plantes/  
Bodenfruchtbarkeit und Pflanzenernährung**

Dr. C. Hera, Institut Central de Recherches Agricoles, Bd. Marasti 61, Bucarest, Roumanie

**V - Soil genesis, classification and cartography/Genèse du sol, classification et cartographie/  
Bodengenetik, Klassifikation und Kartographie**

Prof. Dr. Ing. M. Cirić, Lenina, Sumarski fakultet, 71000 Sarajevo, Yugoslavia

**VI - Soil technology/Technologie du sol/Bodentechnologie**

Dr. V.V. Egorov, Dokuchaev Institute of Soil Science, Pyjevski 7, Moscow-17, U.S.S.R.

**VII - Soil mineralogy/Minéralogie du sol/Bodenmineralogie**

Prof. Dr. L. Pavel, Dept. of Soils and Geology, Agricultural University  
(V.S.Z.), Prague 6 - Suchbát, Czechoslovakia



11th CONGRESS OF THE INTERNATIONAL SOCIETY OF SOIL SCIENCE

June 19-27, 1978, University of Alberta, Edmonton, Canada

(see pages 5-9)

NOTICE OF INTENT

(Please type or print in block letters)

Title and Name . . . . .
Address . . . . .

I expect to attend the 11th ISSS Congress.

I expect to be accompanied by: Wife (Name)
Others

My tour preferences are: 1st 2nd 3rd
Pre-Congress Tour No.
Post-Congress Tour No.

My preferences for local tours are:
Local one-day Tour No.
(Pre/Post-Congress)
Local one-day Tour No.
(During Congress)

Note: Pre-Congress tours are No. 1-9 inclusive. Post-Congress tours are No. 10-18.
Edmonton local one-day tours are No. E1, E2 and E3; Vancouver local one-day tours
are No. V1, V2, V3 and V4 (for itineraries see Bul. No. 49 and pages 6-8 in this Bul.).

I expect to submit a paper to be considered for presentation to Commission.
The proposed title of my paper is

If my paper is accepted for presentation I would prefer:

- To make a regular type 15-minute oral presentation.
To present my material at a Poster session over a 2-3 hour period.
(Details to be provided to me later).

Note: Invitations to submit papers as well as official registration forms will be
included in following ISSS Bulletins.

My accommodation preferences will probably be:

- University Residence adjacent to Congress Headquarters (least costly).
Hotel.
Motel (primarily for those with cars).

Date: Signature

Send to: 11th ISSS Congress,
Box 78, Sub. 11, University of Alberta
Edmonton, Canada T6G 2E0

(Please keep one copy for your records).



11ème CONGRÈS DE L'ASSOCIATION INTERNATIONALE DE LA SCIENCE DU SOL  
19-27 juin 1978, Université de l'Alberta, Edmonton, Canada

(voir pages 10-14)

**AVIS D'INTENTION**  
(Dactylographié ou en caractères moulés)

Titre et nom . . . . .

Adresse . . . . .

. . . . .

- Je compte assister au 11ème Congrès de l'AISS.  
 Je prévois d'être accompagné de: Conjoint (e) . . . . . (Nom)  
Autres . . . . .

Mon choix d'excursions: 1er 2ème 3ème  
Avant le congrès, excursion No. . . . .  
Après le congrès, excursion No. . . . .

Mon choix d'excursions locales:  
Locale d'un jour No. . . . .  
(avant/après le congrès)  
Locale d'un jour No. . . . .  
(pendant le congrès)

Note: Les excursions Nos. 1-9 inclusivement auront lieu avant le congrès; les excursions Nos. 10-18 inclusivement se tiendront après le congrès; les excursions locales d'un jour à partir d'Edmonton sont les Nos. E1, E2 et E3; les excursions locales d'un jour à Vancouver sont les Nos. V1, V2, V3 et V4 (les itinéraires sont décrits dans le Bul. No. 49 et aux pages 11-13 du présent Bul.).

- Je compte présenter une communication à la Commission. . . . .  
Le titre de la communication est: . . . . .  
. . . . .

- Si ma communication est acceptée je préférerais:  
 avoir à disposition 15 minutes de présentation orale;  
 présenter mes données lors d'une session "poster" s'étalant sur 2 à 3 heures  
(pour laquelle des détails me seront fournis ultérieurement).

Note: Les invitations à soumettre des communications ainsi que les formulaires d'inscription officiels seront publiés dans les Bulletins AISS suivants.

- Je préférerais loger à:  
 La Résidence de l'Université attenante au centre du congrès (le moins coûteux).  
 Hotel.  
 Motel (surtout pour ceux qui ont leur voiture).

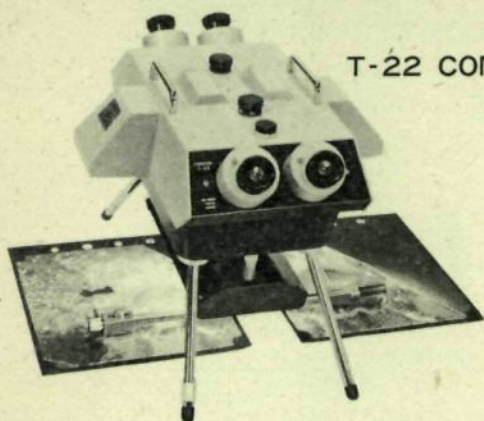
Date . . . . . Signature . . . . .

A renvoyer à: 11ème Congrès AISS,  
Box 78, Sub. 11, University of Alberta,  
Edmonton, Canada T6G 2E0  
(Prière de garder une copie comme aide-mémoire).





**USHIKATA SURVEYING INSTRUMENTS**  
**INSTRUMENTS D'ARPENTAGE VERMESSUNGSINSTRUMENTE**

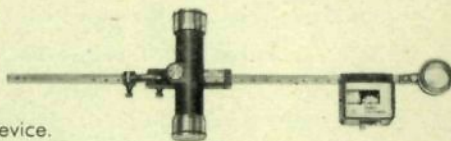


**T-22 CONDOR TWIN STEREOSCOPE**  
**Stéréoscope Jumeau Condor**  
**Condor Doppel-Stereoskop**

1.5X/3X magnification convertible  
Y-parallax adjusting device  
Base line : 26cm  
Test photo: 23cm x 23cm (max.)

**NO.002 O-BAC PLANIMETER**  
**Planimètre O-Bac**  
**O-Bac Planimeter**

Linear, roller type w/0-BAC zero resetting device.  
Tracer arm setting table in English and Metric.



**S-25 TRACON SURVEYING COMPASS**  
**Compas d'arpentage Tracon**  
**Tracon Vermessungskompass**

12X magnification telescope  
Horizontal limb w/vernier up to 5'  
'0-BAC' for easy zero resetting

**NO.42 PENTO DOUBLE OPTICAL SQUARE**  
**Pento Doppel-Winkelprisma**  
**Quadrant optique double Pento**

Precision pentagonal prisms used  
Plummet inside the unit body  
New 4-step extension metal staff available upon request.



For further information, please contact:  
**USHIKATA MFG. CO., LTD.** 12-7, 2-chome, Chidori, Ota-ku, Tokyo, Japan.



**11th CONGRESS OF THE ISSS  
11ème CONGRÈS DE L'AISS  
11. IBG-KONGRESS**

**USA Tours, 1978**

(see also p. 9; voir p. 14; siehe S. 19)

**NOTICE OF INTENT  
AVIS D'INTENTION  
VORLÄUFIGE ANMELDUNG**

Name/Nom: .....  
 Title or function: .....  
 Titre ou fonction: .....  
 Titel oder Tätigkeit: .....

Address/Adresse: .....

I expect to attend the 11th Congress of the ISSS and would be interested in taking a tour in the USA, with preference for the following area:

J'ai l'intention de participer au 11ème Congrès de l'AISS et je serais intéressé à prendre part dans une excursion aux EUA de préférence dans la région de:

Ich werde voraussichtlich am 11. IBG-Kongress teilnehmen und möchte eine Exkursion in den USA, möglichst in dem folgenden Gebiet, unternehmen:

**Tours before the Congress (Southern USA)**  
**Tours avant le Congrès (Etats Unis méridionaux)**  
**Exkursionen vor dem Kongress (Süden der USA)**

- Ia. May 29-June 5, Atlanta, Georgia .....
- Ib. May 29-June 5, Tucson, Arizona .....
- Ic. June 6-7, Lincoln, Nebraska .....

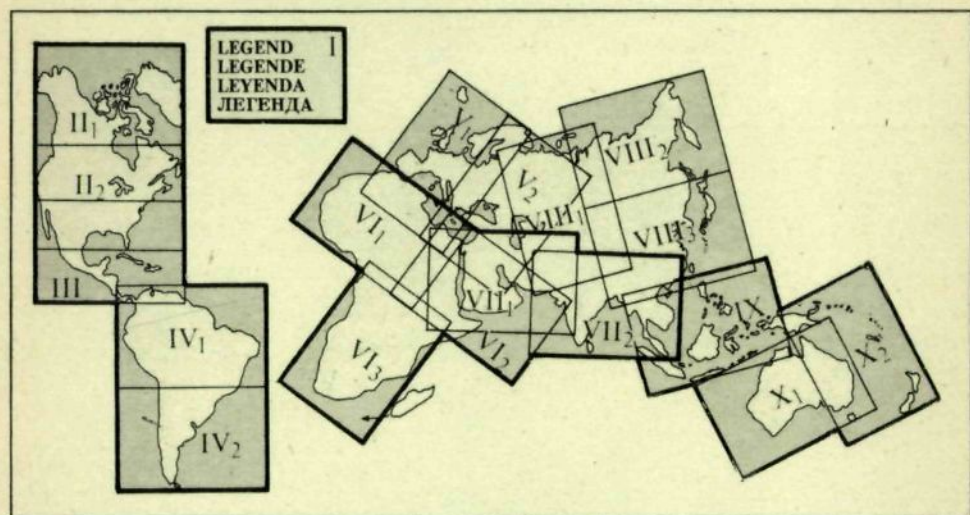
**Tours after the Congress (Northern USA)**  
**Tours après le Congrès (Etats Unis septentrionaux)**  
**Exkursionen nach dem Kongress (Norden der USA)**

- Iia. July 9-14, Chicago, Illinois .....
- Iib. July 9-13, Spokane, Washington .....
- Iic. July 7-8, Lincoln, Nebraska .....
- Iid. July 9-13, Boston, Massachusetts .....

Date/Datum: ..... Signature: .....  
 Unterschrift:

Please return to: **Dr. L.J. Bartelli**  
 Prière de renvoyer à: **Director, Soil Survey Interpretations Division**  
 Bitte einsenden an: **SCS - USDA**  
**Washington, D.C. 20250, U.S.A.**

FAO/UNESCO SOIL MAP OF THE WORLD  
 FAO/UNESCO CARTE MONDIALE DES SOLS  
 FAO/UNESCO WELTBODENKARTE



First global appraisal of the soils of the world at a scale of 1:5 000 000.

19 map sheets accompanied by 10 explanatory volumes.

International legend in English, French, Spanish and Russian.

Première évaluation globale des sols du monde à échelle 1:5 000 000.

19 cartes accompagnées de 10 volumes explicatifs.

Légende internationale en anglais, français, espagnol et russe.

Erste Gesamtauswertung der Böden der Welt mit Masstab 1:5 000 000.

19 Kartenblätter mit 10 Erklärungsbänden.

Internationale Legende in englisch, französisch, spanisch und russisch.

Now available/Déjà parus/Jetzt erhältlich:

Sheets/Feuilles/Blätter:

- I - Legend, Légende, Leyenda
- II-1, II-2 - North America
- III - Mexico and Central America
- IV-1, IV-2 - South America
- VI-1, VI-2, VI-3 - Africa
- VII-1, VII-2 - South Asia
- IX - South East Asia
- X-1, X-2 - Australasia

Explanatory texts/Textes explicatifs/Erklärungsbände:

- Vol. I - Legend (E, F, Sp.)
- Vol. II - North America (E)
- Vol. III - Mexico and Central America (E, Sp.)
- Vol. IV - South America/Amérique del Sur (E, Sp.)
- Vol. VI - Africa (F)

Price/Prix/Preis:

Map sheet/feuille/Blatt: FF 50

Vol. I: FF 25; Vol. II, Vol. III, Vol. IV, Vol. VI: FF 48

Orders to/Commandes/Bestellungen:

Unesco Press, place de Fontenoy, Paris 7 ème, France  
 or National Sales Agents of Unesco Publications.



**SEMINAR ON THE  
APPLICATION OF REMOTE SENSING TO SOIL INVESTIGATIONS**

**Rome, Italy**

**22 August to 2 September 1977**

(see also page 27 in this Bulletin)

This seminar will be organized by the ISSS Working Group on the Applications of Remote Sensing (Commission V) in cooperation with FAO.

Main topics of the seminar are concerned with remote sensing methods and techniques applied to:

- A. General properties and components of the soil
- B. Hydromorphic and saline soils
- C. State of soil surface - erosion
- D. Landform and soil distribution
- E. Soil survey
- F. Interpretation of satellite imagery

In addition, a two-day introductory course on remote sensing applications will be given for those who have a limited experience in this field. This will be held on 22 and 23 August and immediately before the main meeting. Participants should clearly indicate if they wish to attend this introductory course.

Languages: English and French (no simultaneous translation).

Since **possibilities of participation are limited**, those interested should communicate their intent not later than 1 March 1977.

- Deadline for acceptance of papers: 1 March 1977.

- Invited papers should not exceed 3000 words; Voluntary papers on specific subjects should not exceed 1000 words.

The amount of the registration fee (which will not exceed \$ 100) will be communicated to participants in April 1977.

**NOTICE OF INTENT**

Name: . . . . .

Title: . . . . .

Address: . . . . .

Institution: . . . . .

I am interested in receiving further details on the Seminar on the Application of Remote Sensing.

I expect to attend the seminar from 24 August to 2 September 1977.

I wish to attend the introductory course (2 days) on 22 and 23 August 1977.

I shall be accompanied by . . . . .

I propose to submit a paper on: . . . . .

Date: . . . . . Signature: . . . . .

This notice of intent should be returned by 1 March 1977 to:

**Mr. M.C. Girard  
Laboratoire de Télédétection INA/P-G  
78850 Thiverval-Grignon, France**

# COLLOQUE SUR LES APPLICATIONS DE LA TÉLÉDÉTECTION À L'ÉTUDE DES SOLS

Rome, Italie

22 août au 2 septembre 1977

(voir aussi page 26 dans ce Bulletin)

Ce Colloque sera organisé par le Groupe de travail de l'application de la télédétection (Commission V) en collaboration avec la FAO.

Les thèmes principaux du colloque concernent l'application des méthodes et techniques de télédétection à:

- A. Caractères généraux et constituants du sol
- B. Sols hydromorphes et salins
- C. Etat de la surface du sol - érosion
- D. Type de paysage et distribution des sols
- E. Cartographie des sols
- F. Interprétation d'images de satellites

Ceux qui désirent parfaire leurs connaissances de la télédétection auront la possibilité de suivre un cours introductif qui sera organisé pendant les deux jours qui précéderont le colloque, c'est-à-dire les 22 et 23 août 1977. Les participants au colloque sont priés d'indiquer clairement s'ils ont l'intention de prendre part à ce cours introductif.

Langues: anglais et français (sans interprétation simultanée).

Le nombre de participants étant limité, les intéressés sont priés de communiquer leur intention de participation avant le 1er mars 1977.

- Date limite pour l'acceptation des communications: 1er mars 1977.

- Les communications présentées sur invitation ne devront pas dépasser 3000 mots; les communications volontaires ne dépasseront pas 1000 mots.

Le montant du droit d'inscription (qui sera au plus 100 dollars) sera communiqué aux participants en avril 1977.

## AVIS D'INTENTION

Nom: . . . . .

Titre: . . . . .

Adresse: . . . . .

Institution: . . . . .

- Je désire recevoir des informations détaillées concernant le Colloque sur les applications de la télédétection.
- Je compte participer au Colloque du 24 août au 2 septembre 1977.
- Je désire participer au cours introductif (de 2 jours) du 22 au 23 août 1977.

Je serai accompagné de . . . . .

Je désire présenter une communication intitulée: . . . . .

Date: . . . . . Signature: . . . . .

Cet avis d'intention est à renvoyer avant le 1er mars 1977 à:

Monsieur M.C. Girard  
Laboratoire de Télédétection INA/P-G  
78850 Thiverval-Grignon, France

## 5000 Members by 1978

5000 members by the time of the 11th ISSS Congress in Canada is our target for 1978. Membership which was 4120 in 1974 has steadily increased over the last two years and is now approaching 4500. However, this is still only a minor part of the total number of soil scientists working all over the world. The number of national societies having direct relationships with the ISSS has increased from 37 in 1974 to 42 at present. Some of those, however, count less than 20 members in the ISSS, which is the minimum required to ensure representation in the Council. A plea is therefore made to members and to national societies to encourage increased membership in the ISSS.

A new ISSS membership list will be prepared for distribution prior to the Edmonton Congress. Since this list will need to go to press before the end of 1977, it would be appreciated if members and national societies could settle 1977 contributions – and possible arrears for 1976 and 1975 – as early as possible in the new year.

Proposals to be submitted to the 1978 session of the ISSS Council are presently being worked out to make membership in the ISSS ever more rewarding. It is hoped that all national societies will be represented at this forthcoming Council session. Active and numerous participation from all over the world will make it possible to strengthen the ISSS impact on the promotion of soil science and of its applications to development.

**Happy New Year for 1977!**

## 5000 Membres en 1978

5000 membres lors du 11<sup>ème</sup> Congrès de notre Association, tel est notre objectif pour 1978. Le nombre de nos adhérents a augmenté progressivement de 4120 en 1974 à près de 4500 en 1976. Ce chiffre ne représente pourtant qu'une faible proportion de tous les pédologues qui travaillent dans le monde. Le nombre des associations nationales ayant des relations directes avec l'AïSS est passé de 37 en 1974 à 42 à l'heure actuelle. Toutefois, certaines de ces associations comptent moins de 20 membres inscrits à l'AïSS, chiffre minimum requis pour assurer leur représentation au sein du Conseil AïSS. Il est fait appel à ces associations, ainsi qu'à leurs membres, afin de promouvoir une adhésion plus nombreuse à notre association internationale.

Une nouvelle liste des membres AïSS est en voie de préparation et sera distribuée avant le Congrès d'Edmonton. Cette liste devant être prête pour l'impression fin 1977, les membres et les associations nationales sont priés de bien vouloir régler leurs cotisations – et arriérés éventuels pour 1976 et 1975 – au début de la nouvelle année.

Le Secrétariat élabore en ce moment des propositions à soumettre au Conseil en 1978 visant à rehausser l'intérêt des activités AïSS. Il est souhaitable que toutes les associations nationales participent à la prochaine session du Conseil. Une participation active et nombreuse est essentielle au renforcement de l'impact que l'AïSS se propose d'exercer sur l'application de la science au développement.

**Bonne et heureuse année en 1977!**

## 5.000 Mitglieder im Jahr 1978

5.000 Mitglieder zum 11. IBG-Kongress in Kanada ist unser Ziel für 1978. Die Zahl der Mitglieder ist von 4.120 im Jahr 1974 über zwei Jahre ständig angestiegen und nähert sich jetzt 4.500. Dies ist jedoch nur ein kleiner Teil aller auf der Welt arbeitenden Bodenkundler. Die Anzahl der nationalen Gesellschaften, die in direkter Verbindung zur IBG stehen, ist von 37 im Jahr 1974 auf 42 angestiegen. Einige dieser Gesellschaften haben jedoch weniger als 20 IBG-Mitglieder, was das Minimum für eine Vertretung im Beirat ist. Wir bitten daher unsere Mitglieder und die nationalen Gesellschaften um Unterstützung bei der Gewinnung neuer IBG-Mitglieder.

Ein neues IBG-Mitgliederverzeichnis wird vor dem Kongress in Edmonton herausgegeben und verteilt. Da es 1977 vor Jahresende in Druck gehen müsste, werden Mitglieder und nationale Gesellschaften gebeten, ihre Beiträge für 1977 und etwaige Rückstände für 1976 und 1975 so bald wie möglich im neuen Jahr zu überweisen.

Vorschläge für die Bestrebungen, die Mitgliedschaft in der IBG noch attraktiver zu gestalten, werden zur Zeit ausgearbeitet und sollen dem Beirat auf seiner Sitzung 1978 unterbreitet werden. Wir hoffen, dass alle nationalen Gesellschaften bei dieser Sitzung vertreten sein werden. Unser Ziel ist es, den Einfluss der IBG bei der Anwendung der Wissenschaft im Dienste des Fortschritts durch aktive und zahlreiche Beteiligte aus aller Welt zu stärken.

**Glückliches Neujahr in 1977!**

**CONTENTS**  
**SOMMAIRE**  
**INHALT**

An Appeal to ISSS for Cooperation . . . . .	2
<i>Un appel à la coopération de l'AISS</i> . . . . .	2
Aufforderung an die IBG zur Mitarbeit . . . . .	3
The 11th Congress of the ISSS . . . . .	5
<i>Le 11ème Congrès de l'AISS</i> . . . . .	10
Der 11. IBG-Kongress . . . . .	15
Points of View/ <i>Points de vue</i> /Standpunkte . . . . .	20
<i>Congresses, Communications, Citations</i> . . . . .	20
<i>Fertilizer Terminology</i> . . . . .	22
International Relations . . . . .	24
<i>Relations internationales</i> . . . . .	
Internationale Verbindungen . . . . .	
Activities of the ISSS Commissions . . . . .	26
<i>Activités des Commissions AISS</i> . . . . .	
Tätigkeit der IBG-Kommissionen . . . . .	
News from National Societies . . . . .	35
<i>Nouvelles des Associations nationales</i> . . . . .	
Berichte der Nationalen Gesellschaften . . . . .	
Training Courses/ <i>Cours de formation</i> /Fortbildungskurse . . . . .	44
Group Travel/ <i>Voyage en groupe</i> /Gruppenreisen . . . . .	46
ISSS Diary/ <i>Calendrier AISS</i> /IBG-Kalender . . . . .	47
Meetings/ <i>Réunions</i> /Tagungen . . . . .	50
New Publications . . . . .	54
<i>Nouvelles publications</i> . . . . .	
Neue Veröffentlichungen . . . . .	
An Emblem for the ISSS . . . . .	59
<i>Un emblème pour l'AISS</i> . . . . .	
Ein Emblem für die IBG . . . . .	
Committee on Rules . . . . .	59
<i>Comité du règlement</i> . . . . .	
Satzungskomitee . . . . .	

## AN APPEAL TO ISSS FOR COOPERATION

### World Assessment of Soil Degradation

In the framework of the United Nations Environment Programme (UNEP), FAO, Unesco and WMO have initiated, in 1975, a World Assessment of Soil Degradation. The purpose of this project is to evaluate on a global scale the nature and the degree of different soil degradation phenomena such as water erosion, wind erosion, waterlogging, chemical and physical degradation including salinization and alkalization. In addition to the degradation which has already taken place, it is the intention to estimate degradation hazards which may result from future agricultural development.

It is the intention that the results of this study be compiled in maps showing the nature, intensity and geographical distribution of soil degradation phenomena.

It is expected that this programme will assist countries in controlling the loss of productive soil and will help in planning ecologically compatible land reclamation, with special emphasis on arresting the spread of deserts. The global assessment is aimed at supporting international cooperation in preserving the vital and limited soil resources of the world.

Both UNEP and FAO have requested the cooperation of the ISSS in the implementation of this international project within the next two years.

An appeal is made herewith to all members who have experience with or documentation on soil degradation assessment in their country or in other parts of the world to contact directly:

The Coordinator  
AGL Soil Degradation Assessment  
FAO - Via Terme di Caracalla  
00153 Rome, Italy

indicating their field of work (water erosion, wind erosion, desertification, salinity, waterlogging, physical soil degradation, erosion surveys, etc.). Details of the programme will then be sent to them on the basis of which cooperation can be established.

## UN APPEL A LA COOPÉRATION DE L'AISS

### Evaluation de la dégradation des sols à l'échelon mondial

Dans le cadre du Programme des Nations Unies pour l'Environnement (PNUE), la FAO, l'Unesco et l'OMS ont entrepris une évaluation mondiale de la dégradation des sols. Ce projet a pour objet d'évaluer à l'échelon mondial la nature et l'ampleur des différents phénomènes de dégradation du sol, tels que l'érosion hydrique, l'érosion éolienne, l'engorgement, la dégradation chimique et physique, y compris la salinisation et l'alcalinisation. Il vise à évaluer non seulement la dégradation qui s'est déjà produite, mais encore les risques de dégradation qui peuvent résulter des activités agricoles à venir.

Il est prévu que les résultats de cette étude seront représentés sur une carte indiquant la nature et le degré des différents phénomènes de dégradation et leur répartition géographique.

On escompte que les résultats de ce programme aideront les pays à lutter contre la perte de sols productifs ainsi qu'à planifier une mise en valeur des sols compatible avec l'écologie et, en particulier, à arrêter la progression des déserts. Cette évaluation globale a pour objectif de concourir à la coopération internationale en vue de préserver les ressources vitales et limitées en sols de la planète.

La FAO et le PNUE ont fait appel à la coopération de l'AISS afin de réaliser ce projet international dans les deux ans à venir.

A son tour l'AISS fait appel à tous ceux de ses membres, qui ont de l'expérience ou possèdent de la documentation relatives à la dégradation des sols dans leurs pays ou dans d'autres parties du monde, de se mettre en contact avec:

The Coordinator  
AGL Soil Degradation Assessment  
FAO - Via delle Terme di Caracalla  
00153 Rome, Italy

avec indication du domaine dans lequel ils travaillent (érosion hydrique, érosion éolienne, dégradation, salinité, alcalinité, dégradation physique, cartographie de dégradation des sols, etc.). De l'information détaillée sur le projet leur sera envoyée sur base de laquelle une coopération pourra être établie.

## AUFFORDERUNG AN DIE IBG ZUR MITARBEIT

### Weltstudie über Bodendegradierung

Im Rahmen des Umweltschutzprogrammes der Vereinten Nationen (UNEP) haben FAO, Unesco und WMO 1975 eine Studie zur Auswertung von Bodendegradierung eingeleitet. Dieses Projekt soll auf weltweiter Ebene die Art und Verbreitung sowie den Grad der verschiedenen Bodendegradierungsphänomene wie Wind- und Wassererosion, Vernässung, chemische und physikalische Verschlechterung, Versalzung und Alkalinisation zusammenstellen. Zusätzlich zu der bereits stattgefundenen Degradierung sollen schädliche Einflüsse als Folgeerscheinung zukünftiger landwirtschaftlicher Entwicklung abgeschätzt werden.

Die Resultate dieser Studie sollen zu einer Karte verarbeitet werden, auf der die Art, Intensität und geographische Verteilung von Bodendegradierungsphänomenen sichtbar gemacht werden soll.

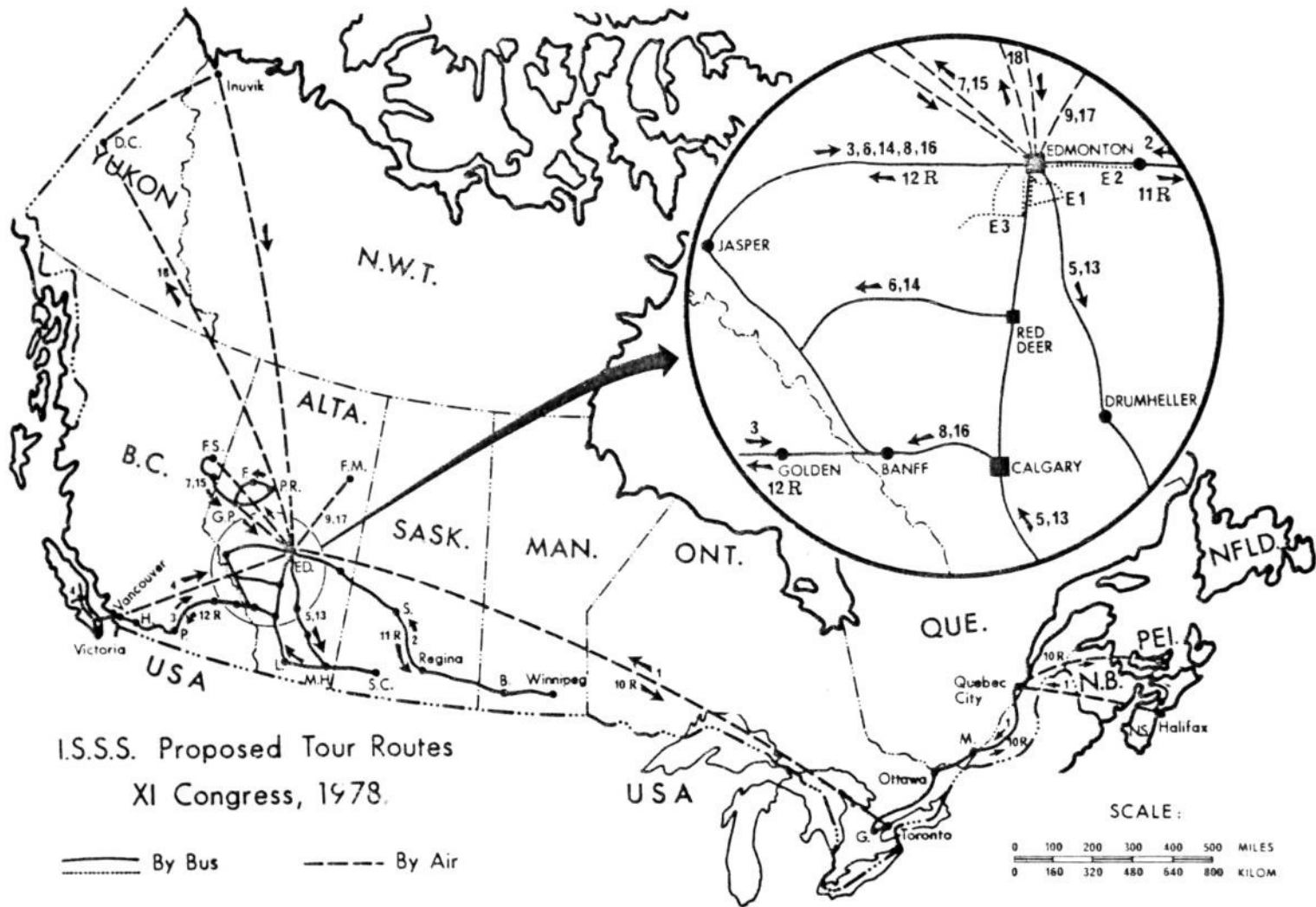
Weiterhin soll dieses Programm den Ländern helfen, den Verlust produktiven Bodens zu kontrollieren und ökologisch vertretbare Landverbesserungsmassnahmen zu planen; besonderer Nachdruck liegt hierbei darauf, die Ausdehnung der Wüsten zu verhindern. Die umfassende Studie soll als Basis für eine internationale Zusammenarbeit zur Erhaltung der lebensnotwendigen und begrenzten Bodenreserven der Welt dienen.

UNEP und FAO haben die IBG um Unterstützung bei der Durchführung dieses internationalen Projektes innerhalb der nächsten 2 Jahre gebeten.

Alle Mitglieder, die Erfahrung mit Bodendegradierung in ihren Ländern oder anderen Teilen der Welt haben und über Dokumentationsmaterial darüber verfügen, werden gebeten, sich an

The Coordinator  
AGL Soil Degradation Assessment  
FAO - Via delle Terme di Caracalla  
00153 Rom, Italien,

zu wenden und ihr Arbeitsgebiet (Wassererosion, Winderosion, Versalzung, Vernässung, Wüstenausdehnung, physikalische Bodendegradierung, Kartographie der Bodendegradierung usw.) anzugeben. Sie werden dann über Einzelheiten des Programmes informiert, auf deren Basis eine Zusammenarbeit aufgebaut werden kann.



I.S.S.S. Proposed Tour Routes  
XI Congress, 1978.

— By Bus      - - - - - By Air

SCALE:

0 100 200 300 400 500 MILES  
0 160 320 480 640 800 KILOM





THE 11th CONGRESS OF THE ISSS  
Edmonton, Canada, 19-27 June 1978

## EARLY SUBMISSIONS OF "NOTICES OF INTENT" URGED

As announced in the ISSS Bulletin No. 49, June 1976, the Organizing Committee for the Eleventh ISSS Congress has planned Pre - and Post-Congress tours as well as local one - day tours during the Congress itself. Full details regarding the tours that are available were included in Bulletin No. 49 and are also summarized below.

*This "First Announcement" information is also available as a separate brochure which contains details regarding:*

- Congress accomodation
- The Congress Program
- Submission of papers
- Registration
- Pre-Congress, Post-Congress and Local tours, and
- a "Notice of Intent" form.

*Information from the "Notice of Intent" forms is vital to effective planning of the tours because:*

- All tours have a limited number of places. Priority will be given to those who have submitted the "Notice of Intent".
- If there is low interest in some tours, they may be cancelled and it is unlikely that cancelled tours will be re-established even if there is subsequent indication of considerable interest in them.

The Organizing Committee therefore requests early submission of "Notice of Intent" forms. (See yellow pages in this Bulletin). Additional copies of those forms and of the First Announcement brochure are available from: 11th ISSS Congress, Box 78, Sub. 11, University of Alberta, Edmonton, Canada T6G 2E0.

## PROGRAM INFORMATION

(Summary of detailed information published in Bulletin No. 49, June 1976).

**Theme:** Optimum soil utilization systems under differing climatic restraints.

**Plenary Sessions:** Five plenary sessions of the Congress will be devoted to the major climatic regions of the world: (i) Polar; (ii) Humid microthermal; (iii) Humid mesothermal; (iv) Dry desert and steppe; (v) Rainy tropical.

For each of these regions the following topics will be dealt with:

- 1) The soils, their significant limitations for food production, and the overriding climatic restraints;
- 2) Present dominant farming systems in comparison to optimum utilization of the soils concerned.

**Symposia:** Six symposia are planned on the following themes: (1) Isotopes in action; (2) Resource information systems; (3) Soil deterioration and reclamation; (4) Utilization of Northern Canadian soils; (5) Soil structure; (6) Long term outlook regarding soil-climate interrelationships.

**Commissions:** Commission sessions will usually be supportive of the general Congress theme. Topics to which Commissions will give preference for the submission of papers are listed in Bulletin No. 49 (June 1976).

**Special interest and working groups:** Special interest and working groups that wish to have meetings during the Congress other than those in the program for presentation of papers, should request such arrangements, indicating the time required and the approximate number of individuals likely to be involved. It will be the responsibility of each such group to arrange its own agenda.

## CONGRESS TOURS

For tours that will originate or terminate at places distant from Edmonton, the cost of air transportation between such places and Edmonton has been included in the estimated cost of the tour. Pre-Congress tour routes are given below. Note that those Post-Congress tours marked "R" travel in the reverse direction (see map in this Bulletin). Highlights of these tours are given in Bulletin No. 49, June 1976.

**Pre-Congress Tour No. 1**  
**Post-Congress Tour No. 10R**  
**Nova Scotia, Quebec and Ontario**

Eight days. No. 1 to commence June 8; No. 10R to commence June 28.

Maximum anticipated cost: Can \$ 770.

*Route:* Charlottetown, Prince Edward Island; Amherst, Kentville, Nova Scotia; Quebec City, Drummondville, Montreal, Quebec; Ottawa, Guelph, Ontario; disperse Toronto, Ontario.

**Pre-Congress Tour No. 2**  
**Post-Congress Tour No. 11R**  
**Prairie Steppes of Manitoba, Saskatchewan and Alberta**

Five days. No. 2 to commence June 12; No. 11R to commence June 28.

Maximum anticipated cost: Can \$ 425.

*Route:* Winnipeg, Brandon, Manitoba; Regina, Saskatoon, Saskatchewan; Vermilion, Edmonton, Alberta.

**Pre-Congress Tour No. 3**  
**Post-Congress Tour No. 12R**  
**Southern British Columbia and Western Alberta**

Eight days. No. 3 to commence June 9; No. 12R to commence June 28.

Maximum anticipated cost: Can \$ 575.

*Route:* Vancouver, Hope, Penticton, Vernon, Revelstoke, Golden, British Columbia; Banff, Jasper, Edmonton, Alberta.

**Pre-Congress Tour No. 4**  
**Canadian West Coast**

Five days. Tour to commence June 11.

Maximum anticipated cost: Can \$ 525.

*Route:* Vancouver, Victoria, Parksville, Tofino, Nanaimo, Vancouver, Edmonton.

**Pre-Congress Tour No. 5  
Post-Congress Tour No. 13**

**Parkland and prairies of Central and Southern Alberta and Saskatchewan**

Nine days. No. 5 to commence June 8; No. 13 to commence June 28.  
Maximum anticipated cost: Can \$ 510.

*Route:* Edmonton, Drumheller, Brooks, Medicine Hat, Alberta; Swift Current, Saskatchewan; Cypress Hills, Lethbridge, Claresholm, Calgary, Lacombe, Edmonton, Alberta.

**Pre-Congress Tour No. 6  
Post-Congress Tour No. 14**

**Western Great Plains and Rocky Mountains**

Six days. No. 6 to commence June 11; No. 14 to commence June 28.  
Maximum anticipated cost: Can \$ 335.

*Route:* Edmonton, Red Deer, Rocky Mountain House, Jasper, Hinton, Edmonton, Alberta.

**Pre-Congress Tour No. 7  
Post-Congress Tour No. 15**

**Northern Agricultural areas of Alberta and British Columbia**

Eight days. No. 7 to commence June 9; No. 15 to commence June 28.  
Maximum anticipated cost: Can \$ 540.

*Route:* Fort St. John to Dawson Creek, British Columbia; Grande Prairie, Peace River, Fairview, Grande Prairie, Alberta. (Edmonton to Fort St. John and return by air).

**Pre-Congress Tour No. 8  
Post-Congress Tour No. 16  
Alberta Landscapes**

Five days. No. 8 to commence June 12; No. 16 to commence June 28.  
Maximum anticipated cost: Can \$ 280.

*Route:* Edmonton, Calgary, Banff, Lake Louise, Jasper, Edmonton, Alberta.

**Pre-Congress Tour No. 9  
Post-Congress Tour No. 17  
Great Canadian Oil Sands**

One day. No. 9 to take place on June 16; No. 17 to take place on June 28.  
Maximum anticipated cost: Can \$ 125.

*Route:* Edmonton to Fort McMurray and return.

**Post-Congress Tour No. 18  
Boreal, Subarctic and Arctic Regions of Canada**

Nine days. Tour to commence June 28.  
Maximum anticipated cost: Can \$ 1,300.

*Route:* Edmonton to Dawson City, Yukon (3 days); to Inuvik, Northwest Territories (4 days) with a side trip to Tuktoyaktuk, Northwest Territories.

**Pre-Congress Local Tours No. V1 and V2  
Post-Congress Local Tours No. V3 and V4  
Lower Fraser Valley Landuse**

One day each. V1 and V2 on June 8; V3 and V4 on July 6.

*Route:* Tours originate in Vancouver, British Columbia. Tours V1 and V3 will be to the University of British Columbia Research Forest at Haney. Tours V2 and V4 travel south and east of Vancouver via Westham Island, Delta and Abbotsford.

**Mid-Congress Local Tours No. E1, E2 and E3  
Soils and Landuse in the Edmonton Region**

One day each.

*Route:* Edmonton Local Tours.

E1 - University of Alberta farm at Allerslie.

E2 - Elk Island National Park to Agriculture Canada Solonchic Soil Research Substation at Vegreville.

E3 - Calmar to Breton and the site of long-term (45 years) research plots.

## **PAPERS**

### **Submission of papers**

The Organizing Committee for the 11th Congress has introduced some new procedures for the transactions of the Congress and for presentation of papers. The new procedures have been explained in detail in Bulletin No. 49 (June 1976). They are summarized below.

Members wishing to present a paper should submit a written copy of their proposed oral presentation (including tables, figures, etc.) but *not exceeding 1,800 words*.

These presentation statements should be typewritten, double spaced on one side of the paper (21 x 28 cm) and in one of the three official languages – English, French or German. It would be greatly appreciated if an English translation could be provided for statements submitted in French or German. Submissions not accepted will be returned to the authors. At the Congress, papers may be presented in the traditional manner or at a poster session (see section on Poster Session in Bulletin No. 49, June 1976).

An abstract of 100-150 words must accompany the presentation statement. It is hoped that authors will submit abstracts in the three official languages and thereby avoid the need for translation. However, translation can be provided if necessary.

Individuals presenting papers may bring copies of their full papers to the Congress if they so desire. Lists of such papers will be available at the Congress and participants wishing copies of such papers and/or copies of the presentation statements may have them reproduced at cost during the Congress.

### **General Procedures**

1. Individual scientists may submit only one paper as first author and/or not more than one paper as second author.
2. One of the authors must present the paper.
3. The original and two copies of the presentation statements and abstracts should be sent to: Congress Manager, 11th ISSS Congress, Box 78, Sub. 11, University of Alberta, Edmonton, Canada T6G 2E0.
4. Presentation of papers at Commission Sessions:
  - a. A maximum of 25 minutes will be allocated for each paper; approximately 15 minutes for presentation and about 10 minutes for discussion;
  - b. authors of all papers will be provided with explicit guidelines for preparation of slides and transparencies containing tabular or graphical material;

c. the Organizing Committee reserves the right to select and edit all submissions and abstracts.

### Important Deadlines

*Receipt of presentation statements and abstracts: not later than October 1, 1977.*  
Notification to authors of acceptance of submissions: December 1, 1977.

### REGISTRATION COSTS

Registration for participant . . . . . not to exceed Can. \$ 100  
(Registration will include the transactions, a banquet and several other items).

Registration for accompanying wife . . . . . not to exceed Can. \$ 60

Accommodation in University Residence, double occupancy, including breakfast,  
per person, per day . . . . . not to exceed Can. \$ 17

Local one-day tours, per tour . . . . . not to exceed Can. \$ 25

Pre - and Post-Congress Tours: see descriptions of individual tours.

**Address all correspondence to:**

**11th ISSS Congress  
Box 78, Sub. 11  
University of Alberta  
Edmonton, Canada T6G 2E0**

### TOURS IN THE U.S.A.

In connection with the 11th Congress there will be an opportunity to take a tour in the USA, organized by the Soil Science Society of America.

These tours will take place either before the pre-Congress tours in Canada or after the post-Congress tours. Those interested in these tours should return the Notice of Intent included in this Bulletin (see Yellow Pages) so that the organizers could prepare more concrete plans. The routes of these tours have been briefly described in Bulletin No. 49, June 1976.

**Information:**            **Dr. L.J. Bartelli**  
                                 **Director, Soil Survey Interpretations Division**  
                                 **SCS - USDA**  
                                 **Washington, D.C. 20250, U.S.A.**



LE 11<sup>ème</sup> CONGRÈS DE L'AISS  
Edmonton, Canada, 19-27 Juin 1978

**PRIÈRE DE SOUMETTRE LES "AVIS D'INTENTION" À UNE DATE AVANCÉE**

Tel qu'il a été annoncée précédemment au No. 49 du Bulletin AISS en juin 1976, le comité organisateur du 11<sup>ème</sup> Congrès a prévu des excursions avant et après le Congrès, ainsi que des visites locales pendant le Congrès. Le Bulletin AISS, No. 49 contient de plus amples renseignements concernant les excursions proposées. Un résumé en est également donné ci-dessous.

Les renseignements compris dans la première circulaire sont également disponibles sous forme de brochure qui donne des précisions concernant:

- le logement
- le programme du Congrès
- la soumission des communications
- l'inscription
- des excursions avant et après le Congrès, des visites locales, et
- un formulaire "d'Avis d'Intention".

Les renseignements fournis par les "Avis d'Intention" sont essentiels à une planification effective des excursions, étant donné que:

- le nombre de places de chaque excursion est limité. Priorité sera donnée à ceux qui ont soumis un "Avis d'Intention".
- s'il y a peu d'intérêt pour une excursion donnée, elle pourra être annulée. Il est peu probable qu'une excursion annulée soit rétablie, même si par la suite les congressistes indiquent un intérêt considérable.

Le comité organisateur vous prie de bien vouloir soumettre le formulaire "d'Avis d'Intention" (voir pages jaunes dans ce Bulletin) bien avant la date limite. Des exemplaires supplémentaires de ce formulaire et de la brochure, comprenant les renseignements de la première circulaire, sont disponibles à l'adresse suivante: 11th ISSS Congress, Box 78, Sub. 11, The University of Alberta, Edmonton, Canada T6G 2E0.

**PROGRAMME**

(Résumé de l'information détaillée publié dans le Bulletin No. 49, Juin 1976).

**Thème:** Systèmes optimum d'utilisation des sols sous différentes contraintes climatiques.

**Séances plénières:** Cinq séances plénières du Congrès seront consacrées aux principales zones climatiques du monde: (i) polaire; (ii) humide microthermique; (iii) humide mésothermique; (iv) désert et steppe; (v) tropicale humide. Pour ces cinq zones on traitera:

- 1) Du sol de ces régions, de leurs limites relatives à la production d'aliments et des contraintes climatiques dominantes;
- 2) Des principaux systèmes actuels de production agricole comparativement à l'utilisation maximum des sols concernés.

**Colloques:** On prévoit la tenue de six colloques sur les thèmes suivants: (1) Activité des isotopes; (2) Système d'information sur les ressources naturelles; (3) Détérioration et remise en valeur du sol; (4) Utilisation des sols du nord canadien; (5) Structure des sols; (6) Perspectives à long terme sur les relations sol-climat.

**Commissions:** Les séances des commissions suivront le thème général du Congrès. Les sujets auxquels les commissions accorderont leur préférence ont été mentionnés dans le Bulletin No. 49, juin 1976.

**Groupes spécialisés et groupes de travail:** Les groupes spécialisés et les groupes de travail qui voudraient se réunir durant le Congrès en dehors des heures prévues par le programme pour la présentation des rapports, peuvent en faire la demande en indiquant le temps requis et le nombre approximatif de participants. Chaque groupe devra préparer son propre ordre du jour.

## EXCURSIONS DU CONGRÈS

Pour les excursions qui prendront le départ ou se termineront à des endroits éloignés d'Edmonton, le coût des excursions comprend le prix du transport par avion entre ces localités et Edmonton.

Les itinéraires donnés ci-dessous valent pour les excursions avant le Congrès. A noter que les excursions après le Congrès marquées "R" se font dans la direction opposée. (Voir la carte dans ce Bulletin). Les points saillants de ces excursions sont décrits dans le Bulletin No. 49, juin 1976.

### **Excursion avant le Congrès No. 1 Excursion après le Congrès No. 10R Nova Scotia, Québec et Ontario**

Huit jours. No. 1 commence le 8 juin; No. 10R commence le 28 juin.

Coût maximum prévu: \$ Can. 770.

*Itinéraire:* Charlottetown, Prince Edward Island; Amherst, Kentville Nova Scotia; Québec, Drummondville, Montréal, Québec; Ottawa, Guelph, Ontario; conclusion Toronto, Ontario.

### **Excursion avant le Congrès No. 2 Excursion après le Congrès No. 11R Prairies steppiques du Manitoba, Saskatchewan et Alberta**

Cinq jours. No. 2 commence le 12 juin; No. 11R commence le 28 juin.

Coût maximum prévu: \$ Can. 425.

*Itinéraire:* Winnipeg, Brandon, Manitoba; Regina, Saskatoon, Saskatchewan; Vermilion, Edmonton, Alberta.

### **Excursion avant le Congrès No. 3 Excursion après le Congrès No. 12R Colombie Britannique méridionale et l'Alberta occidental**

Huit jours. No. 3 commence le 9 juin; No. 12R commence le 28 juin.

Coût maximum prévu: \$ Can. 575.

*Itinéraire:* Vancouver, Hope, Penticton, Vernon, Revelstoke, Golden, Colombie Britannique; Banff, Jasper, Edmonton, Alberta.

**Excursion avant le Congrès No. 4  
Zone côtière du Canada occidental**

Cinq jours: Commence le 11 juin.

Coût maximum prévu: \$ Can. 525.

*Itinéraire:* Vancouver, Victoria, Parksville, Tofino, Nanaimo, Vancouver, Edmonton.

**Excursion avant le Congrès No. 5  
Excursion après le Congrès No. 13  
Prairies-parcs de l'Alberta central et méridional et du Saskatchewan**

Neuf jours. No. 5 commence le 8 juin; No. 13 commence le 28 juin.

Coût maximum prévu: \$ Can. 510.

*Itinéraire:* Edmonton, Drumheller, Brooks, Medicine Hat, Alberta; Swift Current, Saskatchewan; Cypress Hill, Lethbridge, Claresholm, Calgary, Lacombe, Edmonton, Alberta.

**Excursion avant le Congrès No. 6  
Excursion après le Congrès No. 14  
Grandes plaines occidentales et Montagnes Rocheuses**

Six jours. No. 6 commence le 11 juin; No. 14 commence le 28 juin.

Coût maximum prévu: \$ Can. 335.

*Itinéraire:* Edmonton, Red Deer, Rocky Mountain House, Jasper, Hinton, Edmonton, Alberta.

**Excursion avant le Congrès No. 7  
Excursion après le Congrès No. 15  
Régions agricoles septentrionales de l'Alberta et de la Colombie Britannique**

Huit jours. No. 7 commence le 9 juin; No. 15 commence le 28 juin.

Coût maximum prévu: \$ Can. 540.

*Itinéraire:* Fort St. John à Dawson Creek, C.B.; Grande Prairie, Rivière de la Paix, Fairview, Grande Prairie (Edmonton à Fort St. John aller-retour, par avion).

**Excursion avant le Congrès No. 8  
Excursion après le Congrès No. 16  
Paysages de l'Alberta**

Cinq jours. No. 8 commence le 12 juin; No. 16 commence le 28 juin.

Coût maximum prévu: \$ Can. 280.

*Itinéraire:* Edmonton, Calgary, Banff, Lac Louise, Jasper, Edmonton.

**Excursion avant le Congrès No. 9  
Excursion après le Congrès No. 17  
"Great Canadian Oil Sands"**

Une journée chacune. No. 9 le 16 juin; No. 17 le 28 juin.

Coût maximum prévu: \$ Can. 125.

*Itinéraire:* Edmonton à Fort McMurray et retour.



## Excursion après le Congrès No. 18 Canada boréal, subarctique et arctique

Neuf jours. No. 18 commence le 28 juin.

Coût maximum prévu: \$ Can. 1.300.

*Itinéraire:* Edmonton à Dawson City, Yukon (3 jours); à Inuvik, Territoires du Nord-Ouest (4 jours) avec prolongement facultatif à Tuktoyaktuk, Territoires du Nord-Ouest.

## Excursions avant le Congrès No. V1 et V2 Excursions après le Congrès No. V3 et V4 Utilisation des terres dans la vallée inférieure du Fraser

Une journée chacune. V1 et V2 le 8 juin et V3 et V4 le 6 juillet.

*Itinéraire:* Ces excursions partiront de Vancouver (Colombie Britannique). Les excursions V1 et V3 illustreront la recherche forestière à l'Université de la Colombie Britannique à Haney. Les excursions V2 et V4 se dirigeront au sud et à l'est de Vancouver en direction de Westham Island, Delta et Abbotsford.

## Excursions locales intermédiaires E1, E2 et E3 Sols et utilisation des terres dans la région d'Edmonton

Une journée chacune.

*Itinéraire:* Excursions locales à Edmonton.

E1 - Ferme de l'Université de l'Alberta à Ellerslie.

E2 - Parc national d'Elk Island et la Station Agricole de recherches sur les sols solonchiques du Canada à Vegreville.

E3 - Clamar à Breton et les parcelles de recherches à long terme (45 ans).

## COMMUNICATIONS

### Présentation des communications

Le Comité organisateur du 11<sup>ème</sup> Congrès a apporté quelques modifications à la marche à suivre utilisée pour les comptes rendus du Congrès et la présentation des communications. Cette nouvelle procédure a été décrite en détail dans le Bulletin No. 49, juin 1976, et est résumée ci-dessous.

Les membres qui désirent présenter une communication doivent soumettre une version écrite de leur exposé (y compris les tableaux, les illustrations, etc.) *n'excédant pas 1800 mots.*

Le manuscrit doit être dactylographié à double interligne, au recto seulement d'une feuille de 21 sur 28 cm et doit être rédigé en anglais, en français ou en allemand. Dans la mesure du possible, chaque texte français ou allemand sera accompagné de sa traduction anglaise. Les textes refusés seront retournés à leur auteur. Au congrès, les exposés seront présentés de la façon traditionnelle ou au cours de séances spéciales (voir les séances "posters" dans le Bulletin No. 49, juin 1976).

Chaque exposé écrit sera accompagné d'un résumé de 100 à 150 mots dans chacune des trois langues officielles, si c'est possible, afin d'éviter les besoins de traduction. Des services en ce domaine seront toutefois disponibles le cas échéant.

S'ils le désirent, les conférenciers pourront apporter au Congrès la version intégrale de leur communication. Une liste de ces dernières sera disponible sur les lieux et les membres qui en feront la demande pourront se procurer une photocopie des documents ou des exposés écrits à prix coûtant au cours du Congrès.

## Directives générales

1. Les chercheurs ne peuvent présenter qu'une seule communication comme auteur principal et (ou) pas plus d'une comme second auteur.
2. Un des auteurs devra présenter la communication au congrès.
3. L'original et les deux exemplaires de l'exposé écrit et du résumé doivent être envoyés à l'adresse suivante: Congrès Manager, 11th ISSS Congress, Box 78, Sub. 11, University of Alberta, Edmonton, Canada, T6G 2E0.
4. Présentation des communications aux séances des Commissions:
  - a. Un maximum de 25 minutes sera accordé à chaque exposé, soit environ 15 minutes pour la présentation et 10 pour les débats.
  - b. Les auteurs des communications acceptées recevront des directives détaillées sur la préparation des diapositives et des présentations visuelles de tableaux et de graphiques.
  - c. Le Comité organisateur se réserve le droit de choisir et de publier les communications et les résumés.

## Dates limites

Réception des exposés écrits et des résumés: le 1er octobre 1977.  
Avis d'acceptation des communications aux auteurs: le 1er décembre 1977.

## DROITS D'INSCRIPTION

Inscription des participants . . . . . au plus \$ Can. 100  
(L'inscription comprend les comptes-rendus, un banquet et plusieurs autres éléments).

Inscription des conjoints, etc . . . . . au plus \$ Can. 60

Logement en résidence universitaire, chambre à deux personnes, petit déjeuner compris, par personne et par jour . . . . . au plus \$ Can. 17

Excursions locales de 1 jour . . . . . au plus \$ Can. 25

Excursions avant et après le Congrès: voir les descriptions des excursions individuelles.

Envoyez toute correspondance à l'adresse suivante:

**11th ISSS Congress  
Box 78, Sub. 11  
University of Alberta  
Edmonton, Canada T6G 2E0**

## EXCURSIONS AUX EUA

Les participants au 11ème Congrès AISS auront l'occasion, s'ils le désirent, de prendre part à une excursion aux EUA organisée par la Soil Science Society of America. Ces tournées aux EUA auront lieu soit *avant les excursions pré-congrès au Canada*, soit *après les excursions post-congrès*. Les intéressés sont priés de bien vouloir renvoyer l'Avis d'intention inclus dans ce Bulletin (voir Pages Jaunes) afin que le Comité organisateur puisse établir des projets concrets. L'itinéraire de ces excursions a été brièvement décrit dans le Bulletin No. 49, juin 1976.

**Information:** Dr. L.J. Bartelli  
Director, Soil Survey Interpretations Division  
SCS - USDA  
Washington, D.C. 20250, U.S.A.



## 11. IBG-KONGRESS

Edmonton, Kanada, 19.-27. Juni 1978

### BITTE UM BALDIGE EINSENDUNG DER VORLÄUFIGEN ANMELDUNG

Wie bereits in den Mitteilungen Nr. 49 vom Juni 1976 mitgeteilt, plant das Organisationskomitee für den 11. IBG-Kongress Exkursionen vor und nach dem Kongress und lokale Tagestouren während des Kongresses.

Einzelheiten über diese Exkursionen wurden in den Mitteilungen Nr. 49 veröffentlicht und sind untenstehend zusammengefasst.

Die "Erstankündigung" mit Kongressinformationen ist als Sonderdruck erhältlich, gibt Auskunft über:

- Unterbringung
- Kongressprogramm
- Einreichung der Referate
- Anmeldung
- Exkursionen

Und enthält eine vorläufige Anmeldung.

Die auf der "vorläufigen Anmeldung" gemachten Angaben werden für die Planung der Exkursionen dringend und so bald wie möglich benötigt, da:

- die Anzahl der Plätze aller Exkursionen begrenzt ist. Diejenigen Personen, die eine vorläufige Anmeldung eingesandt haben, werden bei Verteilung der Plätze bevorzugt behandelt.

- Sollte für eine Exkursion nur geringes Interesse bestehen, so würde diese gestrichen und auch bei späterem verstärkten Interesse nicht mehr in das Programm aufgenommen werden.

Das Organisationskomitee bittet daher um baldige Einsendung der "vorläufigen Anmeldung" (s. gelbe Seiten in diesen Mitteilungen). Zusätzliche Exemplare dieses Formulars und der Broschüre "Erstankündigung" können bei der folgenden Adresse angefordert werden: 11th ISSS Congress, Box 78, Sub. 11, University of Alberta, Edmonton, Canada T6G 2E0.

### KONGRESS PROGRAMM

(Zusammenfassung der in den Mitteilungen Nr. 49 erschienenen Information).

**Thema:** Optimale Bodennutzungssysteme bei unterschiedlichen klimatischen Grenzbedingungen.

**Plenarsitzungen:** Fünf Plenarsitzungen des Kongresses werden den bedeutendsten Klimazonen gewidmet: (i) polare Zone; (ii) feuchte mikrothermale Zone; (iii) feuchte mesothermale Zone; (iv) Wüsten- und Steppenzone; (v) tropische Regenzone. Für jede dieser fünf Zonen werden die folgenden Themen abgehandelt werden:

1) Die Böden, ihre wesentlichen Begrenzungen für die Nahrungsmittelproduktion und die limitierenden klimatischen Grenzbedingungen;

2) Die derzeit wichtigsten Bewirtschaftungssysteme im Vergleich zur optimalen Nutzung der betreffenden Böden.

**Symposien:** Es sind sechs Symposien geplant, die sich mit den folgenden Themen befassen werden: (1) Isotopen in Aktion; (2) Boden-Informationssysteme; (3) Bodendegradierung und Verbesserung; (4) Nutzung der nordkanadischen Böden; (5) Bodenstruktur; (6) Langfristige Beobachtung der Wechselbeziehung zwischen Boden und Klima.

**Kommissionen:** Die Sitzungen der Kommissionen sollten auf das allgemeine Kongressthema ausgerichtet sein. Die Themen, denen die Kommissionen für die einzureichenden Referate den Vorrang geben, wurden in den Mitteilungen Nr. 49 vom Juni 1976 aufgeführt.

**Besondere Interessen - und Arbeitsgruppen:** Besondere Interessen - und Arbeitsgruppen, die während des Kongresses Sitzungen halten oder andere Sondersitzungen ausserhalb der im Vortragsprogramm vorgesehenen Zeit abhalten möchten, sollten unter Angabe der interessierten Personenanzahl um die nötigen Vorkehrungen bitten. Jede dieser Gruppen ist für ihren eigenen Zeitplan verantwortlich.

## **KONGRESSEXKURSIONEN**

### **Exkursionen vor und nach dem Kongress**

Bei Exkursionen, die in von Edmonton entfernt liegenden Orten beginnen oder enden, sind die Kosten des Lufttransportes zu und von diesen Orten in den veranschlagten Preisen der Touren enthalten.

Die Routen der Exkursionen vor dem Kongress sind unten aufgeführt (siehe Karte in dieser Ausgabe). Exkursionen nach dem Kongress, die mit "R" bezeichnet sind, verlaufen in der entgegengesetzten Richtung. Die Höhepunkte aller Exkursionen wurden in den Mitteilungen Nr. 49 vom Juni 1976 beschrieben.

#### **Exkursion vor dem Kongress Nr. 1 Exkursion nach dem Kongress Nr. 10R Nova Scotia, Quebec und Ontario**

Acht Tage. Nr. 1 beginnt am 8. Juni; Nr. 10R beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 770.

*Route:* Charlottetown, Prince Edward Island; Amherst, Kentville, Nova Scotia; Quebec City, Drummondville, Montreal, Quebec; Ottawa, Guelph, Ontario; Toronto, Ontario.

#### **Exkursion vor dem Kongress Nr. 2 Exkursion nach dem Kongress Nr. 11R Präriesteppen in Manitoba, Saskatchewan und Alberta**

Fünf Tage. Nr. 2 beginnt am 12. Juni; Nr. 11R beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 425.

*Route:* Winnipeg, Brandon, Manitoba; Regina, Saskatoon, Saskatchewan; Vermilion, Edmonton, Alberta.

#### **Exkursion vor dem Kongress Nr. 3 Exkursion nach dem Kongress Nr. 12R Süd-Britisch Kolumbien und West-Alberta**

Acht Tage. Nr. 3 beginnt am 9. Juni; Nr. 12R beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 575.

*Route:* Vancouver, Hope, Penticton, Vernon, Revelstoke, Golden, British Kolumbien; Banff, Jasper, Edmonton, Alberta.

**Exkursion vor dem Kongress Nr. 4  
Kanadische Westküste**

Fünf Tage. Die Exkursion beginnt am 11. Juni.

Maximal veranschlagte Kosten: Kan. \$ 525.

*Route:* Vancouver, Victoria, Parksville, Tofino, Nanaimo, Vancouver, Edmonton.

**Exkursion vor dem Kongress Nr. 5  
Exkursion nach dem Kongress Nr. 13  
Parklandzone und Prärie von Mittel - und West - Alberta und Saskatchewan**

Neun Tage. Nr. 5 beginnt am 8. Juni; Nr. 13 beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 510.

*Route:* Edmonton, Drumheller, Brooks, Medicine Hat, Alberta; Swift Current, Saskatchewan; Cypress Hills, Lethbridge, Claresholm, Calgary, Lacombe, Edmonton, Alberta.

**Exkursion vor dem Kongress Nr. 6  
Exkursion nach dem Kongress Nr. 14  
Westliche "Great Plains" und Rocky Mountains**

Sechs Tage: Nr. 6 beginnt am 11. Juni; Nr. 14 beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 335.

*Route:* Edmonton, Red Deer, Rocky Mountain House, Jasper, Hinton, Edmonton, Alberta.

**Exkursion vor dem Kongress Nr. 7  
Exkursion nach dem Kongress Nr. 15  
Nördliche Landwirtschaftszone von Alberta und British Kolumbien**

Acht Tage. Nr. 7 beginnt am 9. Juni; Nr. 15 beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 540.

*Route:* Fort St. John bis Dawson Creek, British Kolumbien; Grande Prairie, Peace River, Fairview, Grande Prairie, Alberta (von Edmonton nach Fort St. John und zurück per Flugzeug).

**Exkursion vor dem Kongress Nr. 8  
Exkursion nach dem Kongress Nr. 16  
Alberta-Landschaft**

Fünf Tage. Nr. 8 beginnt am 12. Juni; Nr. 16 beginnt am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 280.

*Route:* Edmonton, Calgary, Banff, Lake Louise, Jasper, Edmonton, Alberta.

**Exkursion vor dem Kongress Nr. 9  
Exkursion nach dem Kongress Nr. 17  
"Great Canadian Oil Sands"**

Ein Tag. Nr. 9 am 16. Juni; Nr. 17 am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 125.

*Route:* Von Edmonton nach Fort McMurray und zurück.

## Exkursion nach dem Kongress Nr. 18 Kanadas boreale, subarktische und arktische Regionen

Neun Tage. Beginn am 28. Juni.

Maximal veranschlagte Kosten: Kan. \$ 1.300.

*Route:* Von Edmonton nach Dawson City, Yukon (3 Tage); nach Inuvik, Northwest Territories (4 Tage) mit einem Abstecher nach Tuktoyaktuk, Northwest Territories.

### Lokale Exkursionen vor dem Kongress Nr. V1 und V2 Lokale Exkursionen nach dem Kongress Nr. V3 und V4 Landnutzung im Lower Fraser Tal

Je ein Tag. Nr. V1 und V2 am 8. Juni; Nr. V3 und V4 am 6. Juli.

*Route:* Die Touren Beginnen in Vancouver, British Kolumbien. Touren V1 und V3 führen zur Versuchsstation der Universität British Columbia in Haney. Touren V2 und V4 führen nach Süden und Osten von Vancouver über die Westham Insel, Delta und Abbotsford.

### Lokale Exkursionen während des Kongresses E1, E2 und E3 Boden und Landnutzung im Gebiet um Edmonton

Je ein Tag.

*Route:* "Edmonton Local Tours".

E1 - Zur Bodenversuchsstation der University of Alberta in Ellerslie;

E2 - Von Elk Island National Park zur Nebenversuchsstation für Solonetzböden der kanadischen Landschaft in Vegreville;

E3 - Von Calmar nach Breton und zu einem Ort mit langfristigen Versuchen (45 Jahre).

## REFERATE

### Einreichen von Referaten

Das Organisationskomitee für den 11. IBG-Kongress hat ein neues Verfahren zur Abwicklung des Kongresses und des Vortrages der Referate eingeführt. Das neue Verfahren wurde detailliert in den Mitteilungen Nr. 49 vom Juni 1976 erläutert und ist untenstehend noch einmal zusammengefasst.

Mitglieder, die eine wissenschaftliche Abhandlung vorzutragen beabsichtigen, sollten eine Kopie ihres Wortbeitrages (einschliesslich Tabellen, Ziffern etc.), aber *nicht mehr als 1800 Worte* einreichen.

Die Referate sollten mit doppeltem Zeilenabstand und einseitig (21 x 28 cm) maschinengeschrieben und in einer der offiziellen Sprachen – Englisch, Französisch oder Deutsch – abgefasst sein. Es wäre von Vorteil, wenn eine englische Übersetzung für Beiträge in Französisch oder Deutsch mitgesandt werden könnte. Nichtangenehme Referate werden den Autoren zurückgesandt. Während des Kongresses können die Referate entweder in der herkömmlichen Form oder als Poster-Vorträge präsentiert werden (siehe Abschnitt über Poster-Vorträge in den Mitteilungen Nr. 49 vom Juni 1976).

Eine Kurzfassung von 100-150 Wörtern sollte dem Referat beigelegt sein. Eine Übersetzung der Kurzfassungen in allen drei offiziellen Sprachen würde zusätzliche Übersetzungen ersparen. Übersetzungen können jedoch notfalls angefertigt werden.

Autoren können Kopien ihrer kompletten Beiträge verteilen, die sie während der Sitzungen vorzutragen beabsichtigen. Listen dieser Beiträge stehen den Kongress-Teilnehmern zur Verfügung, und weitere Kopien der Beiträge können bei Bedarf gegen Bezahlung nachgedruckt werden.

## Allgemeine Richtlinien

1. Wissenschaftler können nur ein Referat als Erstautor vorlegen und/oder nicht mehr als einen Beitrag als Zweitautor;
2. Einer der Autoren muss das Referat vortragen;
3. Das Original und zwei Kopien des Referates und die dazugehörige Kurzfassung sollen an die folgende Adresse gesandt werden: Congress Manager, 11th ISSS Congress, Box 78, Sub. 11, University of Alberta, Edmonton, Canada T6G 2E0;
4. Vortrag von Referaten vor den Kommissionen:
  - a. Maximal 25 Minuten stehen für jedes Referat zur Verfügung: ungefähr 15 Minuten für den Vortrag und weitere 10 Minuten für die Diskussion;
  - b. Den Autoren werden genaue Anleitungen für die Vorbereitung von Lichtbildern, Tabellen und graphischen Darstellungen zur Verfügung gestellt;
  - c. Das Organisationskomitee behält sich das Recht vor, alle Vorlagen und Kurzfassungen auszuwählen und zu redigieren.

## Wichtige Termine

Erhalt der Referate und Kurzfassungen: nicht später als 1. Oktober 1977.  
Benachrichtigung der Autoren über Annahme von Beiträgen: 1. Dez. 1977.

## ANMELDEGEBÜHREN

Anmeldung von Teilnehmern . . . . . nicht über Kan. \$ 100  
(Diese Gebühr deckt Kongressdokumentation, ein Bankett und anderes).

Anmeldung der begleitenden Gattin . . . . . nicht über Kan. \$ 60

Doppelzimmer in Universitätsresidenz inkl. Frühstück, pro Person und Tag  
. . . . . nicht über Kan. \$ 17

Lokale Tagestouren, pro Tour . . . . . nicht über Kan. \$ 25

Exkursionen vor und nach dem Kongress: siehe Beschreibung der einzelnen Exkursionen.

### Anschrift für alle Korrespondenz

11th ISSS Congress  
Box 78, Sub. 11  
University of Alberta  
Edmonton, Canada T6G 2E0

## EXKURSIONEN IN DEN USA

Anlässlich des 11. IBG-Kongresses wird die Gelegenheit zu Exkursionen in den USA gegeben, die von der Amerikanischen Bodenkundlichen Gesellschaft organisiert werden. Diese Touren werden entweder *vor den Vor-Kongress-Touren in Kanada oder nach den Nach-Kongress-Touren liegen*. Interessenten werden gebeten, die Anmeldung (s. gelbe Seiten) einzureichen, damit die Organisatoren genauere Pläne ausarbeiten können.

Information: Dr. L.J. Bartelli  
Director, Soil Survey Interpretations Division  
SCS - USDA  
Washington, D.C. 20250, U.S.A.

## POINTS OF VIEW POINTS DE VUE STANDPUNKTE

Under this new heading it is the intention to summarize points of view of members on topics of general interest, to publish "letters to the editor", to establish a dialogue among the readers of the Bulletin. The opinions expressed are those of the authors and do not necessarily engage the ISSS.

*Cette nouvelle rubrique sera consacrée à des points de vue des membres concernant des questions d'intérêt général, à la publication de "lettres à l'éditeur", à l'établissement d'un dialogue entre les lecteurs du Bulletin. Les opinions exprimées dans cette rubrique sont celles des auteurs et n'engagent pas nécessairement l'AISS.*

Unter dieser neuen Rubrik können Mitglieder ihre Meinungen zu Themen von allgemeinem Interesse äussern, sollen Leserbriefe veröffentlicht und ein Dialog innerhalb der Leserschaft der Mitteilungen hergestellt werden. Die veröffentlichten Beiträge drücken die Meinungen der Autoren aus und verpflichten die IBG nicht.

## CONGRESSES, COMMUNICATIONS, CITATIONS

The organization of congresses has been one of the major activities of the International Society of Soil Science. The stated purpose of the congresses is to bring together the members of the Society at certain time intervals, to serve as a formal meeting place for the discussion of scientific papers and thus foster contact and provide a forum for the exchange of ideas and information, and also to elect officers for carrying on the business of the Society in the inter-congress period. Each of the last few ISSS congresses was attended by 10-15 percent of its total membership, not including local nationals, a not inconsiderable number indeed. Personal and professional contacts are an important and most valuable part of the congresses. Several extensive field trips are usually arranged in conjunction with such congresses and for those who participate, they may well remain as the most significant memory of the congresses. Friendly bonds are more easily forged during field trips with a relatively small group of people than during meeting days.

With regard to Congress proceedings, the impact of papers presented can be examined by the use of citations which is a relatively new tool in the field of journal evaluation and in science policy studies. An analysis was made of citations related to the 1964 and 1968 ISSS Congress publications containing 498 and 310 papers respectively. Because of the delay in publication, the volumes of the 1964 congress were almost contemporaneous with the Adelaide 1968 congress volumes, which were printed before the congress and distributed during the sessions. Pre-meeting publications have one drawback in that they include also papers of members who for some reason are prevented from attending the meeting and that they also cannot include the discussions which may arise at the meeting.

Assuming that the present rate of about 5000 annual abstracts published in Soils and Fertilizers represents the major or most relevant research productivity in soil science, it appears that during congress years 6-10% of all published papers are congress papers, a massive proportion indeed. Provided that most of the significant and new advances are reported at the congresses, and assuming that through their publication they exert an influence on future work and research, one might rightfully expect a frequent citation in subsequent years to these congress publications. This, however, does not seem to be the case.

Since citations reach their highest frequency in the second to fifth year after publication, an examination was made of the citation frequency of the Congress volumes in papers published during the years 1970, 1971 and 1972, totalling 462 papers



with 8375 citations in the three periodicals: Journal of Soil Science, Geoderma, and Soil Science. For comparison, an examination was made of the citation frequency to papers published between 1964 and 1968 in three periodicals which also cover the whole gamut of the soil science field – the Soil Science Society of America Proceedings, the Journal of Soil Science, and Soil Science.

**Citation Frequency:** Number of times the 8th and 9th ISSS Congress papers were cited, compared with citations to selected soil science journals of 1964-68.

Publication cited	Number of times cited during 1970-72				Number of items published 1964-68 (F)	Impact factor (2) (Q/F)
	in J.S.S. (1) (2427)	in Geo-derma (2655)	in S.S. (3293)	Total (Q)		
<b>Congress volumes</b>						
8th, Bucharest 1964, 5 vols.	11	12	10	33	498	0.07
9th, Adelaide 1968, 4 vols.	26	34	19	79	310	0.25
<b>Periodicals</b>						
Soil Sci. Soc. Amer.Proc., vols. 28-32	55	61	156	272	1018	0.27
Soil Science, vols. 97-106	56	42	129	227	639	0.36
Jour. of Soil Science, vols. 15-19	88	19	21	128	164	0.78

(1) J.S.S. – Journal of Soil Science, vols. 21, 22, 23 (132 papers with 2427 citations); Geoderma – vols. 3 to 8 (139 papers with 2655 citations); S.S. – Soil Science, vols. 109, 111, 113 (191 papers with 3293 citations).

(2) The impact factor is obtained by dividing the number of times a publication has been cited by the total number of articles (items) published during the specific period. It thus expresses the relative citation rate per published item.

The figures in the table show a large difference between the frequency of citation of the 8th and 9th Congress papers and a higher frequency of citations to selected soil journals. The impact factor, i.e. the relative citation per published item, which is possibly more appropriate for comparison and evaluation, is higher for the journals, though the high impact factor of the Journal of Soil Science is partly due to frequent "self-citation".

This study points to the following:

- The frequency of citation from Congress proceedings seems to be strongly influenced by an early distribution of proceedings following the Congress.

- Citation is favourably influenced by strict selection and editing of the papers prior to their acceptance and presentation.

- Citation from soil journals appears to be higher than citation from Congress proceedings.

- Impact value seems highest for general lectures presented by leading soil scientists on a specific theme.

In conclusion, it seems desirable that proceedings be published soon after the congress; that congress papers be selected along a general theme; that publication priority should be given to general lectures; that the number of papers presented at congresses should be limited; that specialized meetings or symposia held between congresses should be given due attention; that communication among participants at congresses should be particularly cared for.

D.H. Yaalon, Hebrew University  
Jerusalem, Israel

Excerpts from "HORIZON" 1975, pp. 72-79  
A volume of tribute to Prof. F.A. van Baren  
edited by J.H.V. van Baren and L. Bal  
Utrecht, The Netherlands

## FERTILIZER TERMINOLOGY

Among the plant nutrients contained in fertilizers, phosphorus and potassium are commonly expressed in oxide form ( $P_2O_5$  and  $K_2O$ ), whereas the other primary and secondary elements and micro-nutrients are usually expressed in the elemental form in nearly all countries. For several years a trend has developed to express P and K also in elemental form.

### *Advantages of oxide or elemental expression*

The advantages of maintaining the oxide expression or of changing to the elemental expression were reviewed by FAO and are summarized below.

Some points in favour of the continuation of the oxide expression are:

- The long tradition of many countries in fertilizer use;
- The N- $P_2O_5$ - $K_2O$  ratios to which farmers are accustomed;
- The established fertilizer legislation and quality control in a number of countries, based on the oxide form.
- The need for an education and extension effort in case of a change.

A change to the elemental expression would have a number of advantages, such as:

- Elimination of existing terminological confusion caused by the concurrent use of different terms such as "phosphoric acid", "phosphate", "phosphorus", "available P" (for  $P_2O_5$  which contains 44% P) and "potassium", "potash", "available K" (for  $K_2O$  which contains 83% K).

- A change to the elemental form would put the total nutrient content on an equal basis and simplify respective calculations.

- Since phosphorus, potassium and micro-nutrient contents determined by soil and plant analyses are expressed as elements, soil testing, calculations for nutrient requirements, and fertilizer recommendations as a matter of consequence should follow the same pattern.

- The use of N-P-K as a quality denominator for fertilizer elements would give a more balanced picture of the ratio of nutrients unmasked by the oxide oxygen content.

- With regard to animal nutrition, most countries use only the elemental form of expression (P, K, Ca, etc.). There is no particular reason for using the oxide expression in soil chemistry and the elemental expression in animal nutrition for the same chemical elements.

- A change from the oxide to the elemental expression of all plant nutrients would be easier and less costly at an early stage of fertilizer use, as is the case in many developing countries.

### *Trend for change to elemental form*

During the past 10 years an increasing trend towards the elemental expression of all plant nutrients has developed in various parts of the world. The following countries have carried out this change: Australia, Botswana, Denmark, Republic of Ireland, Lesotho, New Zealand, Norway, Republic of South Africa, Swaziland and Sweden.

Finland is at present in the stage of transition, using for some time the oxide and elemental expression side by side. Other countries (USA, Japan) are using both versions simultaneously in their scientific and technical terminology.

The Council for Mutual Assistance (CMEA) at its session in Moscow, held in March 1976, has recommended to its member countries (Bulgaria, Czechoslovakia, G.D.R., Hungary, Mongolia, Poland, Romania and the U.S.S.R.) the gradual change of oxide to elemental expressions for all nutrients in soil, fertilizers, plants and raw materials for fertilizers.

Discussions on the desirability and feasibility of a change to the elemental form are going on in many countries.

### *Elements of a change*

A change from the oxide to the elemental expression of all plant nutrients in a country would include a decision by the Government and adjustments to: the fertilizer law, reporting and publication in agricultural research, soil testing reports and fertilizer recommendations, reporting of analytical results of quality control and of statistical reports. It would also require an education and extension campaign by governments and the fertilizer industry as well as a change in the labelling of bags and documents. It is obvious that such a change would call for a carefully planned programme and a gradual approach to its implementation.

Experience, suggestions, reactions of ISSS members to the proposed changes would be welcomed.

**F.W. Hauck**  
**Soil Resources Service**  
**FAO - Via Terme di Caracalla**  
**00153 Rome - Italy**

## INTERNATIONAL RELATIONS RELATIONS INTERNATIONALES INTERNATIONALE VERBINDUNGEN

### 30th Anniversary of Unesco

Unesco came officially into being on 4 November 1946. On the occasion of the 19th Session of its General Conference held in Nairobi in November 1976 the Organization commemorated the 30th anniversary of its foundation. Its activities are devoted to education, communication, natural and social sciences, humanities and culture. Membership of Unesco increased from 20 signatory states when its constitution was accepted in 1946, to a membership of 136 member states in 1976. It has become an essential forum for dialogue, a means of living together on a globe which science has made smaller. When Unesco was created, an ideal became an organization: to construct the defence of peace in the minds of men.

Unesco has extended considerable support to ISSS activities especially in the fields of the study of salt affected soils, soil micromorphology, the preparation of the soil map of the world, and to scientists from developing countries to participate in international workshops and congresses. On the occasion of its 30th anniversary the ISSS extends to Unesco its best wishes for the continuation of its work and looks forward to strengthening the cooperation between both Organizations.

### Le 30ème anniversaire de l'Unesco

L'Unesco fut créée officiellement le 4 novembre 1946. L'Organisation a célébré son 30ème anniversaire à l'occasion de la 19ème session de sa Conférence générale, tenue à Nairobi en novembre 1976. Ses activités sont consacrées à l'éducation, aux communications, aux sciences naturelles, sociales et humaines et à la culture. Le nombre des gouvernements membres de l'Unesco est passé de 20, pays signataires de sa Constitution en 1946, à 136 en 1976. L'Unesco est le forum indispensable au dialogue international qui permet aux peuples du monde de vivre ensemble sur une planète que la science a rendue plus petite. La création de l'Unesco a donné forme à un idéal: l'édification de la paix dans l'esprit des hommes.

Au cours des années l'Unesco a apporté son concours aux activités de l'AISS dans le domaine de l'étude des sols salins, la micromorphologie des sols, la préparation de la Carte mondiale des sols, la participation de pédologues de pays en voie de développement à des séminaires et congrès internationaux. L'AISS saisit cette occasion pour souhaiter à l'Unesco la pleine réussite dans la continuation de son oeuvre et espère voir se renforcer la coopération entre les deux Organisations.

### 30-jähriges Bestehen der Unesco

Die Unesco wurde offiziell am 4. November 1946 gegründet. Anlässlich der 19. Sitzung ihrer Generalkonferenz in Nairobi im November 1976 gedachte die Organisation des 30. Jahrestages ihrer Gründung. Die Tätigkeit der Unesco wurde der Erziehung und Kommunikation, den Natur-Sozial- und humanistischen Wissenschaften und der Kultur gewidmet. Die Mitgliedschaft in der Unesco stieg von 20 Staaten bei Annahme der Konstitution 1946 auf 136 Mitgliedstaaten im Jahre 1976 an. Unesco ist ein wichtiges Forum für den Dialog, dem Mittel, um in einer Welt zusammenzuleben, die durch den wissenschaftlichen Fortschritt zusammengedrückt ist. Bei Gründung der Unesco wurde ein Ideal zu einer Organisation: die Verteidigung des Friedens im Bewusstsein der Menschheit aufzubauen.

Die Unesco hat die Tätigkeit der IBG wesentlich unterstützt, und zwar besonders beim Studium von Salzböden, Bodenmikromorphologie und der Vorbereitung der Weltbodenkarte; sie hat Wissenschaftlern aus Entwicklungsländern die Möglichkeit gegeben, an internationalen Arbeitsgruppen und Kongressen teilzunehmen. Die IBG übermittelt der Unesco anlässlich ihres 30-jährigen Bestehens ihre besten Wünsche für eine erfolgreiche Fortsetzung ihrer Arbeit und hofft auf eine verstärkte Zusammenarbeit zwischen beiden Organisationen.

## **Member of ISSS appointed as Director of ICRISAT**

The Governing Body of the International Crops Research Institute for the Semi-arid Tropics (ICRISAT) announced the appointment of Dr. Leslie D. Swindale as Director of ICRISAT, Hyderabad, India, effective March 1977. Swindale, a New Zealander has been Associate Director of the Hawaii Agricultural Experimental Station, from 1970 onwards. Prior he held the position of Chief, Soil Resources Development and Conservation Services, FAO, Rome from 1968 to 1970. Before he joined FAO he was the Chairman of the Department of Agronomy and Soil Science, College of Tropical Agriculture, University of Hawaii, where he had been a Professor since 1963. Dr. Swindale's principal current research is a joint University of Hawaii - USAID project concerned with "Crop Production and Land Capabilities of a Network of Tropical Soil Families". Dr. Swindale succeeds Dr. Ralph W. Cummings, who has been appointed as Chairman of the Technical Advisory Committee (TAC) of the Consultative Group on International Agricultural Research. The appointment of Swindale to ICRISAT strengthens the links between the ISSS and this international institute of which our member Dr. J.S. Kanwar is the Associate Director, and ISSS President F. Bentley the Chairman of the ICRISAT board.

## **Membre de l'AISS élu Secrétaire Général du SCOPE**

Le Dr. F. Fournier a récemment été élu comme Secrétaire Général du Comité Scientifique des Problèmes de l'Environnement (Scientific Committee on Problems of the Environment - SCOPE). Ce comité spécial fait partie du Conseil International des Unions Scientifiques (CIUS) (International Council of Scientific Unions - ICSU). Fournier est de nationalité française et a reçu sa formation à l'Université de Paris où il a acquis le diplôme de Docteur en Géographie en 1944. Il a été engagé comme pédologue par l'ORSTOM (Office de Recherches Scientifiques et Techniques Outre-Mer) où il a accédé aux fonctions d'inspecteur général. De 1959 à 1967 Fournier a été Directeur du Bureau Inter-Africain des Sols. Il est membre de l'Académie de l'Agriculture Française et Président de la Commission d'Erosion et de Sédimentation de l'ICSU. La tâche de Secrétaire Général du SCOPE qui lui a été conféré récemment ne pourra que renforcer la coopération déjà existante entre l'AISS et ce Comité et le Programme des Nations Unies pour l'Environnement. Le président du SCOPE est le Prof. G. White (EUA) qui a succédé au Prof. V. Kovda de l'URSS qui fait partie du bureau à titre d'Ancien Président.

## **International Soil Tillage Research Organization (ISTRO)**

ISTRO held its 7th Conference from 15 to 18 June at the Royal Agricultural College of Sweden at Uppsala. One hundred participants from 22 countries took part in the discussion sessions and half of them participated in a two-day post-conference tour to farming and forestry areas North-West of Uppsala. The conference was opened by ISTRO President, Prof. Reijo Heinonen, who is also a member of the ISSS.

In the beginning, ISTRO conference programmes were focused upon the mouldboard plough and ploughing problems. Since the 1950's, however, a remarkable development has taken place in the plough and tractor design and in the efficiency of ploughing, as a result of which the margin for further developments of ploughing operations has narrowed. The focus of soil tillage research has, therefore, generally moved away from the mouldboard plough, even to the extent that the whole operation of ploughing is questioned whenever there is a possibility to find better and fuel-saving alternatives. One of the main topics of this Conference, therefore, was reduced tillage or ploughless farming. Another major question in soil tillage research is the control of soil erosion and the prevention of sediment transport and water run-off from agricultural lands. This topic was touched upon in many papers.

The offset-printed A4 size Conference Report containing 48 papers, altogether 314 pages, was distributed to the participants before the conference. Further copies can be ordered from ISTRO, Division of Soil Management, Royal Agricultural College of Sweden, S-750 07 Uppsala 7, by sending a remittance of 25 Swedish crowns.

**ACTIVITIES OF THE ISSS COMMISSIONS  
ACTIVITÉS DES COMMISSIONS AISS  
TÄTIGKEIT DER IBG KOMMISSIONEN**

**Colloque sur les applications de la Télédétection, 1977.**

Le groupe de travail "Pédologie et télédétection" de la Commission V organise un Colloque du 22 août au 2 septembre 1977, au Siège de la FAO à Rome (Italie), sur l'application de la télédétection à l'étude du sol.

Les deux premiers jours – les 22 et 23 août – seront réservés aux pédologues désirant se familiariser avec les techniques de la télédétection. On définira les capteurs (appareils photographiques, scanner, radiomètres, radar, etc.), les vecteurs (avions, ballons, satellites, etc.), les longueurs d'ondes (ultraviolet, visible, infra-rouge, micro-ondes, etc.), le traitement des données (optique, informatique, statistique, etc.). Des séances d'applications sont prévues les après-midi.

Le Colloque proprement dit débutera le 24 août. On présentera les besoins spécifiques des pédologues, relatifs aux capteurs, vecteurs, longueurs d'onde et traitement des données. Les thèmes journaliers seront présentés par une conférence introductive. Puis il sera possible de présenter de brèves communications sur des sujets en rapport avec le thème. L'après-midi sera consacré à la discussion d'exemples présentés par les participants.

Les thèmes abordés seront les suivants:

A - Eléments directement détectables: calcaire, matière organique, fer, texture, structure des horizons de surface.

B - Relations sol-eau, sol-sel: dégâts des eaux, irrigation, drainage, nappes d'eau, sols hydromorphes, sols halomorphes, zones de sels.

C - Erosion - Etat de la surface du sol: érosion dans diverses unités agro-écologiques, battances, alluvionnement, cailloux, atterrissement, submersion temporaire, façons culturales, modifications topographiques du modelé.

D - Paysage et sol - Facteurs de différenciation: lecture du sol par la végétation, problèmes liés à l'équilibre sol-végétation, influence de la morphologie sur le sol, profondeur des sols; détection des unités cartographiques selon les vecteurs et les capteurs, relation entre unités isophènes et unités pédologiques.

E - Méthodologie: les diverses utilisations de la télédétection et de la photo-interprétation selon les buts de la cartographie pédologique, selon les échelles et les précisions.

F - Images satellites: utilisations possibles des images satellites dans les divers projets, pour les divers buts cartographiques.

Une visite à Telespazio, Centre italien de réception des images satellites, est prévue, ainsi qu'une sortie sur le terrain.

Les langues du colloque seront le français et l'anglais, sans qu'il y ait toutefois interprétation simultanée.

Les personnes désirant présenter des communications sont priées d'adresser un résumé de celles-ci, français et anglais, au directeur du Colloque, Mr. M.C. Girard, avant le 1er mars 1977.

Les inscriptions doivent se faire rapidement. Le nombre de participants sera limité. Un avis d'intention est inclus dans le présent Bulletin (voir Pages Jaunes).

Un résumé français et anglais sera distribué avant le colloque.

Un document contenant les communications et les discussions sera publié après le colloque.

**Informations et inscriptions:**

**Monsieur M.C. Girard  
Laboratoire de Télédétection INA/P-G  
78850 Thiverval-Grignon, France**

## Seminar on the applications of Remote Sensing, 1977.

The working group of Commission V on "Soil Science and Remote Sensing" will organize a seminar from 22 August to 2 September 1977 at the FAO in Rome (Italy) on the applications of remote sensing to soil investigations.

The first two days - 22 and 23 August - will be reserved for a restricted number of participants needing to familiarize themselves with remote sensing methods and techniques. There will be a review of sensors (i.e. cameras, optical-mechanical scanners, side-looking airborne radar, etc.), of the platforms (aircraft, satellites, balloons, etc.), of the electro-magnetic spectra used (ultraviolet, visible, infrared, micro-wave) and data processing (optical, computer, statistical, etc.). Workshops will be held in the afternoons.

The actual seminar will start on 24 August. The specific needs of soil scientists will be considered concerning sensors, platforms, electro-magnetic spectra and data processing. Each day's theme will be presented as a key-note paper. Thereafter will be possible to make short interventions related to the day's theme. The afternoon will be devoted to group discussions with presentations by the participants.

The themes to be dealt with will be the following:

A - Directly detectable characteristics of the surface: limestone, organic matter, iron, texture, structure, characteristic of surface horizons.

B - Soil-water relations and salinization: run-off, irrigation, drainage, water tables, hydromorphic and halomorph soils.

C - Erosion, soil surface conditions: erosion in agro-ecological zones, siltation, alluvial deposition, temporary inundation, cultivation practices, modifications of surface topography.

D - Landscape and soil - factors used for separations: soil identification by vegetation, problems of soil-vegetation relationships, influence of landform on the soil, soil depth; identification of mapping units with different platforms and sensors.

E - Methodology: various applications of remote sensing and photointerpretation in relation to the objectives of soil mapping and precision required.

F - Satellite imagery: possible uses of satellite imagery in various projects, for various mapping objectives.

A visit is planned to the Telespazio, the Italian Landsat receiving station, as well as a field excursion.

The languages of the seminar are English and French, however, no simultaneous interpretation will be provided.

Persons wishing to make presentations or interventions are requested to send a summary in English and French before 1 March 1977 to the seminar director, Mr. M.C. Girard.

Applications should be made as early as possible as the number of participants will be limited. A Notice of Intent is included in this Bulletin (see Yellow Pages).

A summary in English and French will be distributed before the seminar. A document containing the presentations and discussion will be published after the seminar.

**Information and registration:**

**Mr. M.C. Girard**  
**Laboratoire de Télédétection INA/P-G**  
**78850 Thiverval-Grignon, France**

## Savanna Soils of the Sub-humid and Semi-arid Regions of Africa and their Management

(ISSS Commissions I, IV, V and VI – Ghana, November 21-December 3, 1975)

Quite recently, drought in the Sahelian zone was so severe that there were extensive crop failures, the extinction of millions of livestock and widespread human starvation in large areas of West Africa. Although Ghana was not directly affected by this calamity, almost two-thirds of her land surface is savanna where rainfall is very unreliable and water, therefore, is a very serious limiting factor to crop and livestock production. This was why the Soil Science Society of Ghana, with the full support of the Government of Ghana, thought it opportune to take the initiative in requesting the ISSS to sponsor the convening of a joint conference of Commissions I, IV, V and VI on "Savanna Soils of the Sub-humid and Semi-arid Regions of Africa and their Management" in Ghana.



The Conference took place at the Zero Room of the Meridian Hotel, Tema, from Monday, the 24th, to Wednesday, the 26th of November, 1975. The first plenary session which was under the chairmanship of Prof. A.N. Tackie, Executive Chairman of the C.S.I.R., was opened by His Excellency, Dr. R.K.A. Gardiner, Commissioner for Economic Planning on behalf of the Head of State and Chairman of the Supreme Military Council of Ghana.

The conference was attended by over 80 soil and agricultural scientists from twenty-six countries, namely, Belgium, Benin, Brazil, Cameroon, Canada, Central African Republic, Egypt, France, Ghana, Hungary, Japan, Kenya, the Federal Republic of Germany, the Netherlands, Niger, Nigeria, Senegal, Sierra Leone, Sudan, Sweden, Switzerland, Togo, United Kingdom, United States of America, Upper Volta, Zambia.

In a keynote address, Dr. H.B. Obeng, President of the Soil Science Society of Ghana, (photograph on the left), outlined the distribution of soils in Ghana developed in savanna environment. These include coastal savannas of the south, the forest-savanna transition and the interior savannas of northern Ghana. In terms of the FAO/Unesco Soil Map of the World legend, the major soils present include ferric acrisols, plinthic luvisols, lithosols and inter-grade soils between these groups. In subsequent sessions the 20 papers which were presented were not always strictly concerned with soils of savanna regions, but they gave an interesting cross-section of soils from the arid regions to the sub-humid savannas including contributions from Sudan, Zaire, Nigeria, Brazil, Kenya and Sierra Leone.



Recommendations which came from the conference included both pedological and management aspects of soil science. The pedological recommendations include the use and further development of the FAO/Unesco World Soil Map Legend; further study of soils with iron-pan horizons; and that investigations be made into moisture storage capacity, surface sealing properties and nutrient availability of soils in the savanna regions. It was further recommended that the African countries co-operate to complete and publish a map of the salt-affected soils of the continent. Where management is concerned, it was recognised that any advance must evolve from existing systems of farming rather than by drastic changes brought about by overmechanisation. Experimentation should be attempted on farmers' fields and not be restricted to research stations. The conference stressed the need for developing irrigation wherever possible in the savanna regions. The practice of different forms of shifting cultivation and bush-fallow should be studied in respect of increasing farm unit size, introduction of bullocks as draft animals, and mixed animal and cultivation enterprises. In all cases care should be exercised to minimise soil erosion and indiscriminate, uncontrolled burning of the landscape should cease.

### *The study tours*

The conference was preceded by a two-day tour of the Accra plains southeast of the Akwapim ranges. This is a low-rainfall area with less than 850 mm rainfall and streams have intermittent flow. Underlying rocks are ascribed to the Dahomeyan, a lower Pre-Cambrian formation, with inland deposits of continental facies of Tertiary age and the deltaic deposits.

The Accra plains are characterised by short grass savanna, a fireclimax vegetation, much of which is still used for unrestricted grazing. On the Dahomeyan basic gneisses, soils with vertic properties have developed usually showing cracking at the surface and wedge-shaped, slickensided structures in the profile. Two varieties occur, the Ashiaman series are chromic vertisols which occur on the interfluves and the Akuse series are darker coloured pellic vertisols developed on low-lying land. In spite of their dark colour both soils possessed low amounts of organic matter, a clay content of 70 per cent and a C.E.C. of 40 to 50 me./100 g. These soils were slightly calcareous with pH values of between 7 and 8. Certain soils overlying the metamorphic rocks of the Accra plains had structural problems. These are the Agawtaw series, a gleyic solonetz.

Tertiary sands inland from the Volta delta develop deep uniformly red sandy soils with a lighter coloured, reddish brown topsoil. The Toje series, a chromic luvisol, has a weak argillic horizon, an extremely low C.E.C. and a loss of iron from the surface horizon.

Alluvial materials laid down in the delta of the Volta give rise to the Ada series, a gleyic solonetz which suffers inundation during the wet season. However, during the dry season the upper 50 cms dries sufficiently for the iron oxides to take on a bright red (haematitic) colour. Visits were made to irrigation projects at Dawhenya, Astuarte and Kpong where rice and sugar cane were seen. The study tour finished with a visit to the Akosombo Dam completed in 1965 at a cost of \$ 210,000,000.

The post-conference tour began with an interesting but hurried drive from Tema into the semi-deciduous rainforest zone northwest of Accra. The rainforest has been extensively cleared and cultivation of cocoa, plantain, bananas, casava, yam, oil palm, cola and coffee could be seen.

At Kumasi visits were made to the Soil Research Institute and the University of Science and Technology where laboratories and field experiments were seen. A courtesy call was made on the Asantehene who kindly entertained members of the conference to a buffet tea, and the Ghan National Cultural Centre provided a glimpse of national history and culture. Two soils examined in the grounds of the Soil Research Institute were ferric acrisols, deep, red tropical soils with nodular iron concretions at depth. Two other series were seen late in the afternoon in fading light conditions were the Bekwai and Nzima series. The visit to Kumasi concluded with an *al fresco* supper dance at the rest house of the Soil Research Institute.

Travelling northwards from Kumasi the route crossed the narrow elevated (approximately 1,500 ft) rim of the Volta basin, known as the Kwahu plateau, which forms the principal watershed of Ghana. Plantations of teak and eucalyptus were noted in passing on lower ground to the north of the Kwahu plateau. Two soils, both ferric Acrisols, were inspected and a visit made to the Ejura Farms. The Damongo series, a deep red soil with gravelly horizon overlying the weathered sandstone had a weak argillic B horizon. The Ejura series had a very similar appearance but it had less obvious clay skins than the Damongo and the upper part of the profile was composed of reworked material. The Ejura Farms provided a great contrast with the local agriculturalists. It centred round a large storage complex established with money from the World Bank and the project was advised by American specialists. The farms covered a total of 6,000 hectares of which 2,000 is cultivated. Maize and sorghum are the main crops with some soya beans. There is a concentration on maize in the major growing season and on sorghum in the minor season. Yields were rather low, but it was explained time of planting was critical and there was insufficient equipment to complete planting at the optimum time.

After crossing the Volta Lake by the ferry at Yeji, sandy loam soils with indurated iron-pan horizons became more common, mapped as Kpelesawgu and Changnalili series. These soils are both on lower slopes the former having about 40 cms of dark yellowish brown sandy topsoil overlying the indurated ironstone and the latter only 20 cms or less. Considerable erosion occurs because of their structural instability when wet, and with the similar Lima and Volta series on the bottomlands, these soils severely restrict those areas where irrigation could be developed.

Around the town of Bolgatanga, low rises are capped with granite core stones and the soils are impoverished and sandy. The countryside has a widely scattered, but fairly dense settlement pattern. The Nangodi series, a shallow chromic Luvisol was seen on a hillside with low terracing, a locally developed soil conservation method. On low-lying bottom lands of the Volta river the Siare series, a vertic gleysol with silty clay texture, is developed. This soil was widely cracked at the surface and at depths of 150 cms well-developed slickensides were present on structure faces. Although of low productivity at present, these soils could be developed for rice-cultivation if irrigation water could be provided.

On level interfluvies other poorly drained soils were seen, called the Pusiga series. After an inspection of the profile the first example was placed in the eutric gleysols and the second, which had the morphology of a solonetz but without the salts, was allocated to the planosols. The final Ghanaian soil to be seen was the Tanchera series, a plinthic Luvisol with 30 cms grey sandy topsoil above 70 cms of concretionary ironstone, 130 cms of mottled material and overlying weathered granite.

North of the border, in Upper Volta, there is appreciably more relief with inselbergs capped by high-level ironstone. One roadside pit was inspected, attributed to the Wenshie series of Ghana, a plinthic Luvisol. This was a shallow grey sand overlying very strongly indurated ironstone.

Adjacent to the highway the ironstone had been used as road metal but away from the area of disturbance millet and maize had been recently harvested. Before arriving in Ouagadougou a newly planted *Cassia* woodland was inspected. The land had been completely cleared of the savanna vegetation and a very dry, grey topsoil was seen to overlie a horizon of red-mottled concretions below 75 cms. The parent material, granite, was visible in a weathered form in the base of the pit. The soil was classified as a plinthic Luvisol or in the French system a Sol Ferrugineux tropical, remanié, lessivé.

The second day of the excursion in Upper Volta was devoted to the inspection of a toposequence of three soils between Gampela and Gonse about 40 km east of Ouagadougou. On an intermediate level laterite a shallow topsoil overlaid a strongly indurated ironstone which extended to below 100 cms at which point the pit diggers had given up. Just below the 'breakaway' a soil had developed on plinthic material which could be seen to have hardened on exposure to the atmosphere. At the lowest position on the landscape the features of poor drainage appeared more obviously giving an ochreous mottled horizon overlying the strongly mottled plinthite at about 50 cms depth.

At Linoghin the work of the Aménagement des Vallées des Volta (A.V.V.) was described to participants. This is an imaginative scheme involving basic resource surveys of the Black, Red and White Volta valleys, their agricultural assessment, and future development. A total of 31,000 km<sup>2</sup> is included in the scheme which also includes the assessment of the impact of "river blindness" and other social problems associated with re-development and re-settlement. Soils which were of particular interest to the developers were the vertisols which could be used for dry and irrigated cultivation of cotton, rice and other crops. The Tour ended with a reception given by the government of Upper Volta at the Hotel Indépendance in Ouagadougou.

Exerpts from travel reports of  
E.M. Bridges, Univ. College of Swansea, U.K.  
and P.K. Kwakye, Soil Research Inst., Kumasi, Ghana

### **International Symposium on Arid Lands Irrigation in Developing Countries - Environmental Problems and Effects**

Alexandria, 16-21 Februari, 1976

The Symposium was convened by the Committee on Water Research (COWAR), a non-governmental committee of the International Council of Scientific Unions, and was organized jointly by COWAR, Unesco, the Academy of Scientific Research and Technology and the Ministry of Irrigation of Egypt, with the support of UNEP and in cooperation with FAO, WHO, IAHS, IAH, ICID, ICOLD, ISSS, IUBS and IUPAC. The meeting was held in Alexandria, Egypt from 16-21 February 1976 and attended by more than 200 participants representing 26 countries and 11 international, inter-governmental and non-governmental organizations.

The purpose of the Symposium was to bring together all main scientific disciplines bearing on the subject, especially on water use and the environmental effects of irrigation with emphasis on developing countries. The ISSS arranged for the session on land use, soils and water quality, chaired by Dr. I. Szabolcs, Chairman of the Sub-Commission on Salt Affected Soils, who also participated in formulating its conclusions and recommendations.

The Symposium dealt in eight sessions with 24 invited papers on the various aspects of irrigation including its influence on mankind, health, hydrological processes, land use, soils and water quality, its effect on the biological balances of the environment and the efficiency of irrigation schemes.

With regard to the influence of irrigation on mankind and health, it became clear that only not the socio-economic benefits of irrigation development should be considered but also the increased threat of health hazards, (i.e. malaria and schistosomiasis) to mankind. This means that there should be close collaboration between irrigation and health authorities as early as possible during the project formulation stage. The need for such cooperation was also stressed in most of the sessions especially between the various agencies dealing with irrigated agriculture in order to convey the appropriate know how to the small farmers who are the main contributors to agricultural production in developing countries.

The Symposium pointed to the need for world-wide surveys of the water resources, including groundwater, and for the continuation of Global Projects on the Soil Map of the World, Map of Salt Affected Soils, World Map of Desertification and Map of Soil Degradation as basic information for the various projects for arid land irrigation. The fact that in many cases less than 50% of the water provided for irrigation is used efficiently, drew the attention of the meeting to the importance of improved water management of existing irrigation schemes which could contribute towards increasing food supplies more than any other agricultural inputs. Similarly, the

misuse of land and water resources is often the cause of salinity and sodicity developing; in this connection the need for proper management together with systematically planned prognosis and monitoring techniques was emphasized. The establishment of water extension services and the consolidation of agricultural units were mentioned as required remedial measures to improve farming operations, including irrigation, and to help small farmers increase their crop yields.

Concerning the effect of irrigation on the biological balance of the environment, it became clear that irrigation processes, starting from water storage to on-farm use, entrain various ecological changes not only those related to water bodies but also to the terrestrial habitat. Therefore, it is necessary that the managers of the agro-ecosystem should view the problems of an irrigation system in all its aspects in order to reach a solution that would ensure maximum beneficial use of the entire ecosystem.

The proceedings of the Symposium will be published in a final report including the invited papers, the discussions, conclusions and research needs.

Fathy I. Massoud, FAO - Rome

### Agrochemicals in Soils

The Inter-Congress Conference of ISSS Commissions II, IV and VII was held in Jerusalem from 13-18 June 1976. It attracted 78 top soil scientists representing 21 countries, and more than 40 Israeli members of the society.

The congress was opened by Professor U. Kafkafi, the Congress Chairman, and greetings were extended by the Chief Scientist of the Ministry of Agriculture, Professor Y. Vaadia. The first session was chaired by Professor H. Laudelout, past President of Commission II. The friendly as well as scientific atmosphere encouraged lively discussions in the sessions and in the corridors.

The lectures will be published in the "Earth Sciences Series" of Springer Verlag — hopefully in six months' time. Nine invited lectures and more than 60 voluntary papers were delivered in four busy days. The fact that more than 90% of the participants were still in the hall during the last lecture speaks for itself.

The exchange of knowledge between soil chemists, soil mineralogists and soil fertility people was especially important with regard to problems related to the use of sewage water for irrigation, sludge treatment, and movement of ions in the soil and towards the root.

An interesting panel discussion was held on the topic: "Can we (the agrochemical industry and research) feed seven billion people by the year 2000?". The panel was dedicated to the memory of Dr. R.S. Mokady, the founder of quantitative soil science in Israel. All the participants were in agreement that the know-how to produce enough food for the world is in our hands, but that, unfortunately, economic, social and political problems may hamper our ability to reach this objective by the year 2000.

I would like to use this platform to thank all participants and my colleagues for their cooperation which made our congress such an enjoyable one.

U. Kafkafi, Chairman

## Vith International Soil Zoology colloquium



The Soil Zoology Committee of ISSS Commission III held its sixth International Colloquium from 21-25 June 1976 at Uppsala, Sweden. The theme of the Colloquium was "Soil Organisms as Components of Ecosystems". It was sponsored by the Swedish Society, Oikos, and the Swedish Soil Science Society. The organization was entrusted to Prof. Ulrik Lohm, Department of Entomology, University of Uppsala, Sweden. About 160 soil ecologists representing 28 countries attended the meeting. Altogether 105 contributions were presented in five plenary sessions and one poster session. The photograph illustrates one of the poster presentations.

The proceedings, approximately 750 pages, will be published during winter 76/77. The citation of individual papers, if needed before the publication of the volume, should be as follows:

In: Lohm, U. & Persson, T. (eds.) Soil Organisms as Components of Ecosystems. Proc. VI. International Soil Zoology Colloquium. Ecol. Bull. (Stockholm) vol. 25 (in press.).

Orders for the volume may be placed with the Editorial Service of the Swedish Natural Science Research Council, Box 23136, S-104 35 Stockholm, Sweden.

Dr. J.E. Satchell, Institute of Terrestrial Ecology, Grange-over-Sands, U.K., retired from the presidency of the Committee and is succeeded in that office by Prof. J. Berthet, Laboratoire d'Ecologie Théorique et Biométrie, U.C.L., Louvain-la-Neuve, Belgium.

### Managing Saline Water for Irrigation

An International Salinity Conference was held in Texas Tech University, Lubbock, Texas, U.S.A., from 16 to 20 August 1976, under the sponsorship of the ISSS Subcommittee on Salt Affected Soils, the Soil Science Society of America (SSSA), the New Mexico State University, the Texas A&M University, the U.S. Environmental Protection Agency, and the U.S. Salinity Laboratory.

The purpose of the Conference was to focus international attention on problems in the use of saline water for irrigation and on predicting the impact of irrigation on soil salinity and on the salinity of irrigation return flows. The meeting also offered an opportunity to discuss "Guidelines for Prognosis and Monitoring of Salinity and Sodicy" prepared by FAO and for reviewing the salt-affected soil maps of Africa and other continents prepared by the ISSS Subcommittee.

At the opening session, the participants were welcomed by Dr. Glenn E. Barnett, Executive Vice President of the Texas Tech University, and by Dr. Anson R. Bertrand,

Dean, College of Agricultural Sciences of this University, and liaison officer between the SSSA and the ISSS. The Conference was formally opened by Dr. I. Szabolcs, Chairman of the ISSS Subcommittee on Salt Affected Soils. It was attended by 91 participants from 19 countries and from FAO. The Conference was followed by two field trips to institutions and experiment stations at Lubbock, Las Cruces, Safford, Phoenix, Jacona, Yuma, and Riverside. The Conference expressed special thanks to the Organizing Committee and particularly to Prof. Harold E. Dregne, Chairman, for the excellent arrangements made for the Conference and for the hospitality offered by the Texas Tech University.

The proceedings of this Conference will be published. An announcement will be made in the Bulletin at the time they are issued.

### **Modification of Soil Structure**

120 delegates attended the Meeting of Commission I, at Adelaide, Australia, from 23 to 27 August 1976, on 'Modification of Soil Structure', including 25 from overseas. Amongst these were Prof. J. Toogood, vice-President of the ISSS and also Prof. M. de Boodt, Chairman of Commission I, whose initial inspiration made the meeting possible.

The opportunity was taken to look at not only the arrangement of the soil particles, but also the stability of these arrangements and their relation to the physical properties of soils. Further to look from different viewpoints and at different levels of magnification. The result was papers that ranged from discussing the forces between individual mica particles in salt solutions to the forces exerted on wet soil by sheep; from the envelopment of clay domains by polysaccharides exuded from grass roots to the stabilisation of surface soil by the incorporation of date waste.

One difficulty made obvious by the meeting is that of expressing the arrangement of particles at different levels quantitatively, for example the hills and valleys seen under the SEM. The measurement of wet bulk density using  $\gamma$ -ray transmission was shown to be a crude but most useful method of characterising arrangements on a macro-scale.

Among other topics covered by the 54 papers presented were how to modify water entry into and water movement through soils by cultivation and the addition of various chemicals, the importance of using mulches with the assistance of the soil fauna, both in increasing water entry and reducing erosion.

Edited versions of the papers are to be published as a book by John Wiley & Sons. Ltd.

W.W. Emerson, Adelaide

**NEWS FROM NATIONAL SOCIETIES  
NOUVELLES DES ASSOCIATIONS NATIONALES  
BERICHTE DER NATIONALEN GESELLSCHAFTEN**

**Österreich - Wissenschaftlicher Nachlass von Prof. Dr. W.L. Kubiena**

Prof. Dr. Kubienas wissenschaftlicher Nachlass wurde kürzlich der Bundesanstalt für Kulturtechnik und Bodenwasserhaushalt, Petzenkirchen, Österreich, übergeben. Dieser Nachlass enthält eine Sammlung von 2600 Boden- und Gesteinsproben und ca. 2400 Bodendünnschliffe aus verschiedenen Ländern der fünf Kontinente. Bodentypenkundlich sind sowohl semiterrestrische als auch terrestrische Böden, besonders aber Rotlehme, Rendsinen, Ranker und Anfangsbodenbildungen vertreten. Von mehreren Böden wurden die Untersuchungen über ihre Entstehung durch Bestimmung des Alters (Radiocarbonmethode) ergänzt. Der Nachlass enthält auch Prof. Kubienas Bibliothek, die nicht nur eine Sammlung von bodenkundlichen Büchern und Sonderdrucken darstellt, sondern auch Bücher über Naturwissenschaften, Kultur, Wirtschaft und Umwelt enthält. Dieser Nachlass ist für Besichtigungen zugänglich und steht für Studienzwecke zur Verfügung. Weitere Informationen: Dipl. Ing. Dr. F. Blümel, wirkl. Hofrat, Direktor der Bundesanstalt für Kulturtechnik und Bodenwasserhaushalt, A-3252 Petzenkirchen, Österreich.

**Austria - Scientific Heritage of Prof. Dr. W.L. Kubiena**

Prof. Dr. W.L. Kubiena's scientific heritage was recently transferred to the Bundesanstalt für Kulturtechnik und Bodenwasserhaushalt, Petzenkirchen, Austria. This scientific heritage contains a collection of 2600 soil and rock samples and approx. 2400 thin sections of soil from different countries of the five continents. Semi-terrestrial and terrestrial soil types, but especially red loams, rendsinas, rankers and weakly developed soil formations are represented. The study of the genesis of several soils was complemented by the determination of their age (radiocarbon method). The scientific heritage includes also Prof. Kubiena's library which does only consist of books and special issues on soil science but contains also volumes on natural sciences, culture, economics and the environment. The material can be viewed and may be used for study purposes. Additional information: Dipl. Ing. Dr. F. Blümel, wirkl. Hofrat, Direktor der Bundesanstalt für Kulturtechnik und Bodenwasserhaushalt, A-3252 Petzenkirchen, Austria.

**Autriche - Héritage scientifique du Prof. Dr. W.L. Kubiena**

L'héritage scientifique du Prof. Dr. W.L. Kubiena a récemment été transféré au Bundesanstalt für Kulturtechnik und Bodenwasserhaushalt, Petzenkirchen, Autriche. Cet héritage comprend une collection de 2600 échantillons de sols et de roches et 2400 lames minces provenant de différents pays dans les cinq continents. Ces échantillons représentent des sols bien drainés ainsi que des sols hydromorphes, mais comprennent surtout des échantillons de Rotlehme, Rendzines, Rankers et des sols peu évolués. Pour plusieurs sols les analyses ont été complétées par des déterminations du carbone radioactif afin d'en déceler l'âge et l'origine. La collection comprend aussi la bibliothèque du Prof. Kubiena qui consiste non seulement d'ouvrages pédologiques mais également de livres de sciences naturelles, culture générale, économie et environnement. Cette collection peut être consultée et étudiée dans les locaux de la Bundesanstalt. Des informations détaillées peuvent être obtenues à l'adresse suivante: Dipl. Ing. Dr. F. Blümel, wirkl. Hofrat, Direktor der Bundesanstalt für Kulturtechnik und Bodenwasserhaushalt, A-3252 Petzenkirchen, Autriche.

## 50 Years of Australian Soil Research

1976 is the Jubilee of the Commonwealth Scientific and Industrial Research Organisation. The Division of Soils was created in 1929 and the Division of Plant Industry in 1928. The first Chief of the Division of Soils, Professor J.A. Prescott is a Life Member of I.S.S.S., and members present at the Moscow Congress will remember his address to our Jubilee celebration.

The research effort in soils in C.S.I.R.O. has been spread for most of the time through the Divisions of Soils, Plant Industry, Tropical Pastures and Land Research and Irrigation. More recently other Divisions have been created – by taking off parts of the oldest Divisions – Applied Geomechanics from the Soil Mechanics Section of the Division of Soils, Environmental Physics from Plant Industry, and Land Use Research and Land Resources Management by splitting Land Research.

The activities of the Organisation in soil research and plant nutrition have varied from soil and land survey, soil chemistry and physics, mineralogy, and soil biology – including mycorrhizae and rhizobial studies – to extensive studies in plant nutrition with particular emphasis on trace elements.

In the study of soil in the field, the outstanding contribution was the mapping on a continental scale of the soils of Australia, almost single handed, by J.A. Prescott in which he drew attention to the importance of cyclic salt in the development of saline soils and to the importance of the soils of Tertiary age as a component of the modern landscape. This was followed by seminal studies on the relation between soils and landscapes in dissected laterites, on the importance of prior stream in the geomorphology of alluvial plains, in understanding the pattern of soil salinity, and of the widespread occurrence of panna.

In soil mapping, the development of the Factual Key for profile recognition allowed the remapping of the continent, in the Atlas of Australian Soils, in time for the 1968 Congress in Adelaide. The method of land system mapping based on the interpretation of aerial photographs by a team of soil scientists, geomorphologists and plant ecologists in terms of entities of land with similar recurring patterns of topography, vegetation, and soil has been widely used as a reconnaissance tool in other parts of the world. In the description of soils, the C.S.I.R.O. contribution to the study of their micromorphology has been outstanding.

In mineralogy and geochemistry, the major contributions have been to knowledge of phosphate minerals in soils, and to the manner in which the lattice of several metal oxide minerals can accommodate foreign ions. This is particularly important in relation to the inclusion of cobalt in the manganese oxide lattice and of aluminium in the goethite lattice. The use of trace elements composition, including the content of rare earths, as a means of detecting layering in soils, as distinct from the formation of pedologic horizons has been another first for the Organisation.

In the soil physics, the major contributions have been:

(a) the establishment of the relationship between the size of the pores present and permeability to water;

(b) the development of an equation that describes and predicts the infiltration of water into soils;

(c) the analysis of the possible modes of moisture equilibrium in the vertical for swelling soils; and

(d) the relationship between soil strength and root growth.

In soil chemistry and plant nutrition the work of greatest impact has been the recognition of the need for molybdenum for nitrogen fixation by legumes and, in Australia, the recognition of wide areas where it is deficient. Other major efforts have been the studies on soil sulphur and soil nitrogen transformations. The development of a gas lysimeter, coupled with the use of N 15, allowed the first unequivocal demonstration of the loss of soil nitrogen as ammonia from the plant.

In the borderland of chemistry, physics and pedology the studies in Western Australia have demonstrated how the salt accumulated in deeply weathered profiles can effect the salt balance of a river catchment when a change in vegetation pattern



– from whatever its cause – results in a change in evaporative demand. In soil biology the major contribution has been the recognition of the wide differences in effectiveness of different strains of rhizobia, and of the effect of soil conditions – especially soil acidity, soil temperature and trace elements – on nodulation and nitrogen fixation. These findings have helped to develop systems of agriculture in pastoral industry which operate on very low inputs, whether the inputs are calculated either in terms of fertiliser cost or energy required. The more recent pioneering work on mycorrhizal and bacterial antagonisms in the rhizosphere will, if it can be developed, pave the way for considerable advances in production in rainfed agriculture.

These are the highlights. Beside these there has been an enormous flow of solid work, in determining areas needing trace elements and sulphur, in developing methods for estimating the needs of the major nutrients, in developing analytical techniques, and in solving soil problems of particular areas, whether these related to house foundations, to crop failure, or to animal health.

All in all it has been a vastly constructive, productive and fascinating 50 years.

E.G. Hallsworth  
Chairman, Land Resources Laboratories  
Glen Osmond, Australia

#### 41st Annual Convention of the Indian Society of Soil Science

The Society held its 41st Annual Convention during 18-20 June 1976 in the Campus of the Andhra Pradesh Agricultural University, Hyderabad. The Convention was inaugurated by Hon. Minister for Agriculture of Andhra Pradesh who underlined, the importance of soil conservation and soil testing in crop production in the country. Dr. G.S. Sekhon of the Punjab Agricultural University, Ludhiana (Punjab) and Dr. A.B. Ghosh and Dr. P.A. Varade of the Indian Agricultural Research Institute were presented the Potash Research Award for their significant contribution on Potassium. The former contributed to the understanding of the potash problems of Punjab soils while Dr. Ghosh and Dr. Varade had shown that schoenite, a by-produce of marine salt industry, can be used effectively as an alternative source of potassium for crop nutrition. Dr. J.S. Kanwar, Associate Director of the International Crop Research Institute for Semi-Arid Tropics, Hyderabad delivered the 3rd Dr. R.V. Tamhane Memorial Lecture on "Soil and Water Management – Key to Crop Production in Semi-Arid Tropics". There was a Group Discussion on "Teaching of Soil Science in Indian Universities". The need for uniformity in the courses and curricula in Soil Science both at the under-graduate and post-graduate level were emphasized. The group recommended certain core courses at both the levels. It was further decided that at the next meeting of the Society, the course contents, text books, etc. will be finalized so that the teaching in Soil Science at the different Universities of India will be of a high standard.

At the Annual General Meeting of the Society the following were elected as office bearers:

President:	Dr. S.K. Mukherjee
Vice-President:	1. Dr. B.V. Mehta 2. Dr. S.V. Govindarajan 3. Dr. G.S. Sekhon
Secretary:	Dr. T.D. Biswas
Joint Secretary:	Dr. A.B. Ghosh
Assist. Secretary:	Dr. N.N. Goswami
Treasurer:	Dr. A.S. Gowaikar

Next year, the Convention will be held in the Campus of the University of Agricultural Sciences, Bangalore, India, and a Symposium on "Phosphates in agriculture" will be held.

## New Soil Science Society in East Africa

The East African Society of Soil Science was inaugurated on the occasion of the 13th meeting of East African specialists for soil fertility and crop nutrition held in Nairobi in September 1974. The first Annual General Meeting of this Society was held at EAAFRO, Muguga, Kenya in September 1975. The East African Society of Soil Science held its second Annual Meeting from 6-8 September 1976 at the East African Committee Management Institute, Arusha, Tanzania.

Information can be obtained from: Mr. A.O. Moshi Secretary, Soil Science Society of East Africa EAAFRO - P.O. Box 30148, Nairobi, Kenya.

## Netherland's Society of Soil Science studying Geophysical Methods and Soil Formation

On 17 November 1976 the Netherland's Society of Soil Science devoted its 79th scientific meeting to the study of geophysical methods and soil formation including the determination of soil moisture and soil density through nuclear measuring instruments, geo-electrical methods for the study of shallow sediments, geophysical borehole investigations, thermic soil research. Organization was entrusted to Dr. E. Oele from the State Geological Service.

## Presentation of Soil Map of Australasia to New Zealand Envoy in Rome



On 2 August 1976, Mr. R. Jackson, Deputy Director-General of FAO (on the right in the photograph), presented the FAO/Unesco/ISSS 1:5 000 000 Soil Map of Australasia to the Permanent Representative of New Zealand to FAO, Mr. N. Plimmer (on the left in the photograph). The two sheets covering Australia, New Zealand and the Pacific Islands had just come off the press. This presentation was made in recognition of the financial support provided by New Zealand's Government for the printing of these maps. Acknowledgement is also made

here of the active cooperation of Australian and New Zealand soil scientists in the preparation of these maps.

### **Scandinavian Soil Scientists meet**

The Section on Soil and Fertilizers of the Nordic Association of Agricultural Scientists met in Copenhagen, 28-30 September 1976. The agenda was devoted to soil classification used in Scandinavian countries and principles and methods of land evaluation. Special attention was given to the practical application of soil data to land use and agricultural development. Papers from the participating countries were presented by Prof. Rasmussen, Denmark; Dr. Sillanpää, Finland; Dr. Låg, Norway and Dr. Troedsson, Sweden.

### **Soil Science Society of America commemorates U.S.A. Bicentennial**

The SSSA held its 40th Annual Meeting at Houston, Texas, from 28 November to 3 December 1976. On the occasion of the bicentennial year of the U.S.A. the Society reviewed the contributions made by soil scientists and agronomists and examined the challenges of the future. The general theme of the meeting, held jointly with the American Society of Agronomy and the Crop Science Society of America, was "Agronomists and Food: Contributions and Challenges". The SSSA organized 3 symposia during the Houston meeting, namely on: Agronomic implications on wintertime soil and microclimate conditions; Crop residue management; Minerals in the soil environment.

450 SSSA papers were presented including a special session on urea. This Bulletin is going to press at the time the meetings are being held, and a more live report on the proceedings will be given in the next issue.

### **4th National Congress of the Sociedad Venezolana de la Ciencia del Suelo**

The Venezuelan Society of Soil Science held its 4th National Congress in Maturín from 22 to 26 August 1976. 150 members of the Society attended the meeting which also elected its new Board for the 1976/77 period.

President:	Luis Redden
Vice-President:	Ramón Paredes
Secretary:	Hernán Bermejo
Treasurer:	Agustín Molero
Board Member:	Pedro Urriola
International Delegate:	Julia de Brito

The address of the Sociedad Venezolana de la Ciencia del Suelo is:  
Apartado 1208-100, Santa Rosa, Maracay, Venezuela.

### **President Tito Award for Yugoslav Society of Soil Science**

On the occasion of the 25th Anniversary of its creation, the Yugoslav Society of Soil Science was presented by President Tito with a special award of merit on account of its contribution to soil science in Yugoslavia and to the agricultural development of the country. The announcement of this award was made at the 5th Congress of the Yugoslav Society of Soil Science held at Sarajevo from 31 May - 2 June 1976. The ISSS extended its warm congratulations to the Yugoslav Society for its achievements and for its very active participation in international soil activities.

The 5th Congress was held under the Chairmanship of Prof. Dr. M. Cirić, Chairman of Commission V of the ISSS. It devoted its technical sessions to the development of mountainous soils, irrigated and drained soils and the land use on shallow soils.

Three excursions were organized on these major topics in Herzegovina, Bosnia and Dalmatia. The papers of the Congress are available in print under the title of "5th Congress of Yugoslavian Soil Science Society, Sarajevo", 472 p. 1976.

At this Congress, Dr. M. Resulović, Faculty of Agriculture, Sarajevo, retired



from the presidency of the Society and was succeeded by Dr. D. Popovski, Faculty of Agriculture, Skopje. Other members of the Board are: Vice-President, Prof. Dr. S. Manojlovic (Agricultural Faculty, Novi Sad); Secretary General, Dr. G. Antonovic (Inst. Agrochemistry and Soil Science, Belgrade); Treasurer, Dr. V. Dobrenov (Agricultural Faculty, Novi Sad). The Board also comprises representatives of each Republic and autonomous provinces as well as the chairmen of the Commissions.

The 6th Congress of the Yugoslav Society of Soil Science will be held in 1980 at Novi Sad under the chairmanship of Prof. Dr. N. Miljkovic (Agricultural Faculty, Novi Sad). The topics for the 6th Congress will be: Problems of soils under intensive use; Land Evaluation in plains and hilly areas; Soil mapping, Soil classification with regard to the preparation of the Soil Map of Socialist Federal Republic of Yugoslavia at scale 1:50 000; Protection of natural environment with special regard to the pedosphere.

### 25ème Anniversaire de la Société Belge de Pédologie

Au cours de sa réunion annuelle, tenue à Louvain-la-Neuve le 22 octobre 1976, la Société Belge de Pédologie – Belgische Bodemkundige Vereniging – a célébré son 25ème anniversaire. Dès sa création, la nouvelle Société accepta d'organiser le Cinquième Congrès de l'Association Internationale de la Science du Sol qui eut lieu en 1954 au Zaire. Au cours de 25 années d'activités la SBP a su maintenir sa vitalité des premiers jours. L'AISS présente à la Société Belge de Pédologie les meilleurs voeux de la communauté internationale de la science du sol pour la continuation de ses travaux durant de nombreuses années à venir.

La journée à thème était consacrée aux relations entre la pédologie et la protection de l'environnement. Le Prof. A. Herbillon, hôte de cette réunion à l'Université Catholique de Louvain (UCL), souligna la responsabilité des pédologues pour la mise en oeuvre de programmes d'action et d'une planification qui tiennent compte des impératifs écologiques. Les sujets traités par les orateurs comprenaient: la cartographie des sols et ses applications aux problèmes d'aménagement et de conservation des sols, par M. Jamagne, INRA, France; aspects physico-chimiques de la pollution du sol, par R. Van Bladel, UCL; le sol comme réservoir et tampon naturel dans l'environnement, par A. Cottenie, RUG; la prospection géochimique des métaux dans les alluvions et les sols et l'environnement, par H. Martin, UCL; incidences écologiques des pesticides sur la faune du sol, par Ph. Lebrun, UCL. Une table ronde, présidée par le Prof. J. D'Hoore, Président de la Société Belge de Pédologie, a formulé les conclusions générales des différentes communications et établi des recommandations pour les travaux futurs.

## 1976 Conference of the British Society of Soil Science

The British Society of Soil Science held its annual Conference in Dublin from 13 to 19 September. Opening the Conference were:



*Left to Right:*

*Dr. M.J. Gardiner, Dublin, Chairman, Organizing Committee.*

*Professor P. Arnold, Newcastle-upon-Tyne, President British Society of Soil Science.*

*Professor G.F. Mitchell, F.R.S., Trinity College, Dublin.*

*Dr. T. Walsh, Director, Agricultural Institute, Dublin.*

*Professor R.I. Davies, Bangor, Wales, Past President, British Society of Soil Science.*

The Conference comprised four main symposia: Soils and the human factor; Soil genesis, classification and land use; Soil biology and plant nutrition; Soil physics and engineering.

The presidential address by Professor P. Arnold was devoted to soil science and the search for unifying concepts. Three half-day and three full-day excursions were organized during the Conference, while a post-conference tour (17 to 19 September) took the participants through West Cork, an area which shows a considerable range of annual rainfall (48 inches near the coast to 100 inches in the mountain regions).

The better soils occurring in the lowlands belonged to the alluvial, brown earth and brown podzolic groups and mostly constitute the limited arable soils in the area. The far more extensive hilly and mountainous regions show the poorer podzols, gleys, peats and skeletal soils. Deep man-made plaggen soils were demonstrated at Donroe, Ardfield. The study of representative soil profiles was combined with showing hill-land reclamation, dairy research, land use in lowland and mountain areas.

## In Memoriam



### **Prof. Dr. J. di Gléria (1899-1976)**

*Prof. J. di Gléria, the Honorary President of the Hungarian Soil Science Society, the former Director of the Research Institute for Soil Science and Agricultural Chemistry of the Hungarian Academy of Sciences, an outstanding scientist, passed away on the 21st June, 1976.*

Prof. di Gléria was a long-standing member of the International Society of Soil Science and participated in the work of the ISSS from its very beginning. He attended numerous symposia and congresses of the Society, he was one of the organizers of the Commission Meetings held in Hungary in 1929 and 1933. He was a member of the German Soil Science Society and many other international and Hungarian organizations as well. Hungarian and international soil science suffered a heavy loss by his death.

Born in 1899 in Szombathely (Hungary) he graduated from the Budapest Technical University as chemical engineer and he obtained his Ph. D. Degree at the same University in 1924. At this time and later he worked under the leadership of the famous soil scientist Prof. A.A. de "Sigmund in Budapest and Prof. G. Wigner in Zürich.

His particular field of interest was the colloid chemistry and physics of soils with special regard to soil acidity. His name was closely related with problems of soil fertility, soil chemistry as well as other subjects of this branch of science. After World War II he was appointed to the Agricultural University of Debrecen, and in 1954 to the Research Institute for Soil Science and Agricultural Chemistry of the Hungarian Academy of Sciences in Budapest as Director, which post he held until 1959. Later he remained in the Institute as consultant. He spent several years 1967-1970 in Cuba organizing the new Soil Science Institute, introducing modern physico-chemical and isotope methods into the agricultural research of this country.

Prof. di Gléria was President of the Hungarian Soil Science Society up to 1967, and later he was elected Honorary President of this Society.

In recognition of his outstanding achievements in the field of soil science and agricultural chemistry he received many awards, among them, the Order of Merit, Gold Medal of the Hungarian Society of Agricultural Sciences, etc.

Those who knew him – friends and pupils – in Hungary and abroad feel deep sorrow and mourning for the loss of their invaluable friend, colleague and teacher.

I. Szabolcs, Budapest

#### **Prof. Ir. Georges Waegemans (1913-1976)**

Le jour de la Pentecôte, 6 juin 1976, décéda à Tremelo le Prof. Georges Waegemans, ingénieur chimiste (Louvain, 1935), chef du département de Pédochimie et Géochimie de l'Institut des Recherches Chimiques du Ministère de l'Agriculture, à Tervueren, chargé de cours émérite à la Faculté des Sciences Agronomiques de l'Université de Gand.

Il débuta sa carrière de chercheur comme assistant du professeur Estienne à Louvain (microbiologie). Nommé assistant à "l'Institut des Recherches Chimiques du Ministère des Colonies" (Tervueren) en 1937, il fut chargé de fonder un laboratoire pour l'analyse des sols d'Afrique Centrale (Congo). Après la guerre 1940-45 le laboratoire prit rapidement de l'ampleur, au point de devenir une section séparée, dont G. Waegemans devient le premier "chef de service" en 1948.

Nommé chargé de cours en 1950 à la Faculté des Sciences Agronomiques (Université de Gand), G. Waegemans y enseigne "la pédologie des régions tropicales, subtropicales et arides". Durant la période 1947-1959 il concentre ses activités et recherches sur le phénomène de la genèse des latérites et bauxites.

Son premier séjour comme géologue-pédologue-prospecteur en 1947 dure 11 mois et est suivi de 4 autres voyages d'études en 1949-50, 1951-52, 1954 et 1958. Il présente les résultats de ses recherches dans une quinzaine de publications, parues avant 1960.

Après l'indépendance en 1960 de l'ancien "Congo Belge", le Centre de Recherches Chimiques de Tervueren est repris par le Ministère de l'Agriculture. La section dirigée par G. Waegemans devient en 1966 le "Département de Pédochimie et Géochimie". Depuis 1960 il publie 5 communications relatives à la pédochimie et l'alimentation des plantes.

Par son dynamisme et son esprit de précision, il a su mettre sur pied un centre de recherche d'une grande valeur; ses collaborateurs et collègues, qui étaient tous ses amis, lui en seront toujours reconnaissants.

En tant que professeur, G. Waegemans n'aimait pas enseigner "ex cathédra". Il préférait discuter à fond quelques problèmes empruntés à la pratique agricole, solliciter les objections des étudiants, pour souligner ensuite la valeur relative des facteurs discutés. Le chercheur scientifique était pour l'étudiant un homme avec qui il était à la fois instructif et agréable de s'entretenir. Ses anciens étudiants aussi gardent de lui un souvenir ému.

L. De Leenheer, Gent.

### **Dr. John L. Retzer**

Dr. John L. Retzer, a soil scientist who retired several years ago from the Forest Service, U.S. Department of Agriculture, died in Fort Collins, Colorado, on February 29, 1976 after a long illness. He leaves a wife and two children. Dr. Retzer was born on a farm near Pearl, Illinois, on March 5, 1910 and was reared there, thus acquiring an early and lasting interest in the soil. After obtaining his early education in local schools, he received a B.S. degree from the University of Illinois, an M.S. degree from Iowa State College, and a Ph. D. from the University of Wisconsin.

Once the first degree was earned, Retzer went to work for the U.S. Department of Agriculture in the national soil survey programme and stayed on that job for seven years, with time out for graduate study in Iowa. From 1942 to 1946, he was employed in the Emergency Rubber Project administered by the Forest Service and subsequently continued work for that agency. For 11 years, he was stationed at the *Rocky Mountain Forest and Range Experiment Station in Fort Collins, Colorado*, where he again took time out for graduate study. While in Colorado, he became interested in soils of the alpine zone in the Rocky Mountains. In 1957, he was transferred to Washington, D.C., to provide scientific leadership in the soil surveys being started in the national forests. He remained there until his retirement.

The major contributions by Dr. Retzer were made through his study of the soils of alpine zones and through his leadership in soil surveys in the national forests, the latter including both making and application of soil surveys. The contributions on both counts have been substantial; present-day understanding of the soils at high elevations in the United States and of the role of soils in the national forests is appreciably better because of his work. His interests as he recorded them in his last entry in American Men of Science were in soil morphology and genesis, soil-ecology relationships, and forest and wild lands. Dr. Retzer was able to improve our knowledge in all three subject matter areas.

Roy W. Simonson  
College Park, Maryland

### **Mr. Aubrey du Toit**

With the sudden death early in February 1976 of Mr. Aubrey du Toit, the Rhodesian agricultural industry suffered a great loss. He joined the Department of Research and Specialist Services, Ministry of Agriculture, in 1952 with an M.Sc. degree from Rhodes University and in 1968 he obtained a further M.Sc. degree in analytical chemistry at the University of Rhodesia.

Over the years he developed an extraordinary depth of knowledge covering many facets of agricultural chemistry. For many years he was closely associated with pedology and soil science in Rhodesia before he became interested in fertilizers and *farm feeds*. *At the time of his death he was a leading authority on mycotoxins and pesticide residues in both plants and animals.* Mr. du Toit was 47 years old and is survived by his wife and four children.

R.J. Fenner, Salisbury

**TRAINING COURSES  
COURS DE FORMATION  
FORTBILDUNGSKURSE**

**Technical Short Courses in Agriculture and Related Disciplines**

The US Department of Agriculture and the Agency for International Development (USAID) in cooperation with US universities offer a number of technical short courses in agriculture and related disciplines. In the field of soils science the following courses are available:

**1. Management of arid lands and salt-affected soils**

18 weeks of technical and applied training offered by the University of Arizona. Classroom sessions are combined with field work covering diagnostic procedures for evaluating saline and sodic conditions in soils; methods for improving soils; evaluation of suitability of land for irrigation. Beginning date: January.

**2. Soil fertility and ecological relationships affecting food production**

12 weeks of training including 3 weeks of field study in the Southern and South Western parts of the United States. The course includes the improvement of soil fertility, soil testing, fertility programmes, use of fertilizers, soil and water conservation. Beginning date: June.

**3. Watershed management in arid and semi-arid zones**

4 weeks of lectures, case studies and on site visit on erosion control, rehabilitation of forests and range lands and flood control. Beginning date: scheduled on demand.

**4. Remote sensing technology and application in agriculture**

4 weeks of an intensive course at the Laboratory for Applications and Remote Sensing at Purdue University. Principles of data acquisition through remote sensing applied to crop surveys, soils, forestry and hydrology. Beginning date: scheduled on demand.

Each of these courses can be arranged overseas upon request and by mutual agreement. The cost of the courses is around US \$ 850 per month exclusive of travel and per diem. The courses are arranged on a group basis with a minimum of 10 and a maximum of 21 persons.

Additional information and conditions of registration can be obtained from: Dr. Robert I. Ayling, Deputy Director for International Training, Foreign Development Division, Economic Research Service, U.S. Department of Agriculture, Room 3529 - South Building, Washington, D.C. 20250, U.S.A.

Other courses which are organized on an annual basis have been announced in previous numbers of the ISSS Bulletin. For ease of reference the titles and addresses for obtaining further information are mentioned below.

*D'autres cours, organisés annuellement, ont été annoncés dans des Bulletins précédents. Les titres de ces cours et les adresses où des informations détaillées peuvent être obtenues sont reproduites ci-dessous pour mémoire.*

Andere Kurse auf Jahresbasis wurden in den vorigen Nummern der IBG-Mitteilungen erwähnt. Die Titel dieser Kurse und die Adressen, die darüber Auskunft erteilen können, sind untenstehend nochmals aufgeführt.



### **Post-graduate Courses in Soil and Water Engineering**

*Information:* Academic Secretary, National College of Agricultural Engineering, Silsoe, Bedfordshire, U.K.

### **Interpretation of Aerial Photography for Soil Surveys**

*Information:* ITC Office of Student Affairs, P.O. Box 6, Enschede, The Netherlands, Cables: AERSUR

### **International Course on Land Drainage**

*Information:* Director, International Agricultural Centre, Lawickse Allee 11, P.O. Box 88, Wageningen, The Netherlands, Cables: INTAS.

### **Post-graduate Courses in Soil Science**

*Information:* The Secretary, Dep. of Soil Science, University, Reading, U.K.

### **Phil Course in Integrated Land Resources Survey**

*Information:* The Senior Assistant Registrar, Room 222, Whiteknights House. The University, Whiteknights, Reading RG6 2AH, I.K.

### **Post-graduate Training in Land Use Planning (Bonifica integrale), Soil Conservation, Water Control and Irrigation**

*Information:* International Centre for Mediterranean Studies, Bari Institute, Str. Prov. Ceglie, Valengano, Italy.

### **Licence en Science du Sol (Master in Soil Science)**

*Information:* International Training Centre for Post-graduate Soil Scientists, RUG, 44 Rozier, 9000 Ghent, Belgium.

### **Pédologie et aménagement des sols**

D.E.A. Fédéral (Diplôme d'études approfondies)

*Renseignements:* Université Pierre et Marie Curie (Paris VI), Service de la scolarité, 11 quai Saint-Bernard, Bâtiment C, Paris; Université Paris VII, 2 Place Jussieu, Tour centrale, Paris, France.

### **M.Sc. Course in Soil Science and Water Management**

*Information:* M. Sc. Course in Soil Science and Water Management, Agricultural University, P.O. Box 37, Wageningen, The Netherlands.

## GROUP TRAVEL

Group travel of 15 or more participants to ISSS ventures can be 30 to 40% cheaper than individual bookings. National societies are in the best position to make such arrangements with national airlines or local travel agents. In the case, however, that there are not enough participants from one country or for members who do not belong to a national society, the ISSS Secretariat can act as a focal point to group participants from different countries. With regard to the Commission meetings in Malaysia (August 1977) and Japan (October 1977) those interested may return the notice of intent for group travel (see p. 61). These notices will be handed over to airlines or travel agents who have indicated interest and who will then contact the participants directly. The ISSS Secretariat will play a mediating rôle but can however not handle the subsequent organization.

## VOYAGE EN GROUPE

*Le prix d'un voyage en groupe de 15 participants, ou plus, peut être de 30 à 40% moins cher qu'un voyage individuel. Les associations nationales sont les mieux placées pour organiser un voyage en groupe en collaboration avec des lignes aériennes nationales ou des bureaux de voyage locaux. Toutefois, au cas où il n'y aurait pas assez de participants d'une même association, ou pour les membres qui n'appartiennent pas à une association nationale, le Secrétariat AISS peut servir de point de référence pour grouper des participants de différents pays. Pour les réunions de Commissions qui auront lieu en Malaisie (août 1977) et au Japon (octobre 1977) les intéressés peuvent renvoyer le bulletin d'intention (voir p. 61), au Secrétariat AISS. Ces indications seront ensuite transmises à une compagnie aérienne ou un agent de voyage qui ont offert leurs services et qui se mettront en contact direct avec les intéressés. Le Secrétariat AISS servira d'intermédiaire mais ne peut toutefois pas se charger de l'organisation même des voyages projetés.*

## GRUPPENREISEN

Reisegruppen mit 15 oder mehr Teilnehmern zu IBG-Veranstaltungen erhalten Nachlässe von 30-40% gegenüber Einzelbuchungen. Die nationalen Gesellschaften erfüllen die besten Voraussetzungen für die Organisation solcher Gruppenreisen in Zusammenarbeit mit nationalen Luftfahrtgesellschaften oder ansässigen Reisebüros. In Fällen jedoch wo nicht genug Mitglieder einer nationalen Gesellschaft auftreten, oder für Mitglieder, die keiner nationalen Gesellschaft angehören, kann das IBG-Sekretariat als Vermittlungsstelle wirken, die Teilnehmer verschiedener Länder zusammenstellt. Für die Tagungen der Kommissionen in Malaysia (August 1977) und Japan (Oktober 1977) können Interessenten die provisorische Anmeldung (siehe S. 61) ausfüllen und an das IBG-Sekretariat senden. Diese Angaben werden dann einer Luftfahrtgesellschaft oder einem Reisebüro zugeleitet, die eine Zusammenarbeit in diesem Sinn angeboten haben und sich direkt mit den Teilnehmern in Verbindung setzen werden. Wir bitten um Verständnis, dass das IBG-Sekretariat nur als Vermittler fungiert und sich nicht mit der weiteren Organisation der Reise befassen kann.

**ISSS DIARY  
CALENDRIER AISS  
IBG KALENDER**

All ventures listed in this diary are open only to ISSS members and to guests invited by the Organizing Committees. Detailed programmes are being sent to those who fill out notices of intent published in the ISSS Bulletin. The 1977 issues of the Bulletin will be particularly important in view of the holding of the 11th ISSS Congress in 1978. It will be advantageous to settle 1977 membership contributions in good time and whenever possible through the national soil science societies.

*La participation à toutes les manifestations mentionnées ci dessous est réservée aux membres de l'AISS et aux invités des Comités d'organisation. Les programmes détaillés et des formulaires de réservation d'hôtel sont envoyés à ceux qui renvoient les inscriptions provisoires publiées régulièrement dans ce Bulletin. Les numéros de 1977 seront particulièrement importants, en vue du 11ème Congrès AISS. Il y a donc avantage à régler tempestivement la souscription 1977, si possible par l'intermédiaire l'association nationale.*

Die Teilnahme an allen unten erwähnten Veranstaltungen ist auf IBG-Mitglieder und auf geladene Gäste der Organisationskomitees beschränkt. Detaillierte Programme und Hotelreservierungsformulare werden denjenigen Personen zugestellt, die die provisorischen Anmeldungen einreichen, die regelmässig in den Mitteilungen erscheinen. Die Mitteilungen des Jahres 1977 sind in Anbetracht des 11. IBG-Kongresses besonders wichtig. Es ist daher empfehlenswert, Beitragszahlungen für 1977 rechtzeitig und möglichst durch Ihre nationale Gesellschaft vorzunehmen.

1977

24-28 May 1977

**5th International meeting on Soil Micromorphology, Granada, Spain.**

The meeting is being organized by the University of Granada and the Instituto Nacional de Edafología y Agrobiología José María Albareda. It will include plenary lectures, presentation of papers as well as round table discussions on selected topics. A field trip through the south of Spain visiting Córdoba and Sevilla will follow the scientific sessions from 29 May to 2 June.

Main topics of the meeting:

- Methods on soil micromorphology;
- Soil biology and humus formation;
- Soil formation and classification;
- Micromorphology of special soil features;
- Paleopedology;
- Applied micromorphology;
- Soil micromorphometry.

Papers can be submitted in Spanish, French, English and German. The working language of the meeting will be English.

Registration fee: US \$ 80.

Cost of excursion (with full board): US \$ 140.

*Information and registration:* Prof. Dr. D. Miguel Delgado Rodriguez, Departamento de Edafología, Facultad de Farmacia, Universidad de Granada, Granada, Spain.

29 May - 5 June 1977

**Second Meeting of the Working Group on Soil Information Systems (Commission V, ISSS), Varna, Bulgaria.**

This meeting is being organized by the Ministry of Agriculture and Food

Industry, the N. Poushkarov Institute of Soil Science and the Society of Soil Science, Bulgaria. Main topics of the meeting are:

- Data input methods;
- Data storage and retrieval;
- Methodology of data base management systems;
- Applications of soil information systems.

The languages of the meeting will be English and Russian. Intent of participation should be communicated by sending the Notice of Intent (see yellow pages in Bulletin No. 49, June 1976) to the address shown below.

Registration fee: US \$ 40.

*Information and registration:* Dr. I. Garbouchev, Organizing Committee of 2nd Meeting WGSIS, N. Poushkarov Inst. of Soil Science, 5, Shosse Bankja, Sofia, Bulgaria.

### 15-21 August 1977

#### **Classification and Management of Tropical Soils (Commissions IV and V, ISSS), Kuala Lumpur, Malaysia.**

This joint inter-congress meeting of Commissions IV and V will be hosted by the *Malaysian Society of Soil Science and the Ministry of Agriculture of Malaysia.*

- Topics:
- Soil genesis, classification and cartography;
  - Evaluation of fertility status and fertilizer requirements;
  - Soil management;
  - Land evaluation in tropical areas.

The technical sessions will be held in Kuala Lumpur from 15-21 August 1977. The Conference will be preceded, for those interested, by a pre-conference tour in Peninsular Malaysia from 8-14 August 1977. A post-conference tour in Peninsular Malaysia from 8-14 August 1977. A post-conference tour will be organized in Sabah and Sarawak from 22-28 August 1977. On 29 August Malaysia will celebrate the 20th anniversary of its independence. Members interested in taking part in this Conference and tours should write to the Organizing Committee or send the Notice of Intent included in Bulletin No. 49, June 1976. (See Group travel possibilities on pages 46 and 61)

*Information and registration:* Malaysian Society of Soil Science, c/o Soils and Crop Management Division, Rubber Research Institute of Malaysia, Jalan Ampang, P.O. Box 150, Kuala Lumpur, Malaysia.

### 22 August - 2 September 1977

#### **Colloque sur les applications de la Télédétection/Seminar on the applications of Remote Sensing Commission V, Rome, Italy (see page 27; voir page 26).**

*Information:* Mr. M.C. Girard, Laboratoire de Télédétection INA/P.G. 78850 Thiverval, Grignon, France.

### 4-11 September 1977

#### **Symposium on "Soil as a Site Index for Forests of Temperate and Cool Zones", Zvolen, Czechoslovakia.**

The session will be organized by the Working Group on Forest Soils, Commission V of the ISSS. It will deal with current problems of forest soil science and enhance contact among specialists in the field. The sessions will be held from 4-6 September 1977; excursions will be organized from 7-11 September 1977.

All contributions to the symposium should fall under one of the following subjects and can be presented in English, French, German or Russian:

1. Forest soils of the temperate and cool zones, their classification, mapping and evaluation.
2. Utilization and man's influence on forest soils, through silvicultural measures, chemical effects, fertilization and other activities.
3. Methods for the analysis of forest soils.

An excursion will be arranged from 7-11 September 1977. It will take the participants from Zvolen to the Low Tatras, Big Fatra and Brno, will demonstrate the principal soils of the Western Carpathian mountains (some of them in natural forests) as well as forest research plots, thinnings and fertilization trials.

Registration fee: US \$ 40.

Cost of excursion: US \$ 80.

*Information and registration:* Prof. Dr. R. Sály, Faculty of Forest Sciences, Stúrova 4, 96001 Zvolen, CSSR.

#### 4-11 September 1977

**Symposium "Boden als Standortfaktor der Wälder der gemässigten und kühlen Zonen", Zvolen, CSSR.**

Die Tagung wird von der Arbeitsgruppe für Waldböden der V. Kommission der IBG organisiert und soll zur Behandlung aktueller Probleme der forstlichen Bodenkunde und zur Herstellung von Kontakten unter Fachkollegen dienen. Folgende Termine sind vorgesehen: Tagung 4.-6. September 1977; Exkursion 7.-11. September 1977.

Alle Beiträge zur Tagung sollten sich unter die folgenden Themen einordnen lassen und können in englisch, französisch, deutsch oder russisch eingereicht werden:

1. Waldböden der gemässigten und kühlen Zone, ihre Klassifikation, Kartierung und Bewertung.

2. Nutzung und Beeinflussung von Waldböden durch den Menschen (waldbauliche Massnahmen, Chemisation und Düngung u.a.).

3. Methoden zur Untersuchung von Waldböden.

Eine Exkursion, die vom 7.-11. September 1977 vorgesehen ist, führt die Teilnehmer von Zvolen zur Niederen Tatra, Grossen Fatra, Brno und demonstriert Hauptbodentypen der Westkarpaten (einige davon in Urwäldern) und forstliche Versuchsflächen (Durchforstungen, Düngungsflächen).

Anmeldungsgebühr: US \$ 40.

Teilnahme an der Exkursion: US \$ 80.

*Auskunft und Anmeldung:* Prof. Dr. R. Sály, Fakultät für Forstwirtschaft, Stúrova 4, 96001 Zvolen, CSSR.

#### 10-17 October 1977

**International Seminar on Soil Environment and Fertility Management in Intensive Agriculture (Commission IV, ISSS), Tokyo, Japan.**

This Seminar will be organized by the Society of the Science of Soil and Manure, Japan. (See Group travel possibilities on pages 46 and 61)

Topics for the Seminar are:

1. Management of soil fertility for maximizing crop yield;

2. Effects of intensive farming on soil and water environment;

3. Soil environment as a basis for intensive agriculture;

4. Disposal and utilization of agricultural waste.

The language of the Seminar will be English.

*Information and registration:* Prof. K. Kawaguchi, Chairman, Organizing Committee of SEFMIA, Faculty of Agriculture, Kyoto University, Kyoto, Japan.

#### 1978

##### 19-27 June/juin/Juni 1978

**11th Congress of the International Society of Soil Science**

**11ème Congrès de l'Association Internationale de la Science du Sol**

**11. Kongress der Internationalen Bodenkundlichen Gesellschaft**

**Edmonton, Canada.**

Organized by the Canadian Soil Science Society (see details in Bulletin No. 49 and in this Bulletin).

**MEETINGS, CONFERENCES, SYMPOSIA  
RÉUNIONS, CONFÉRENCES, SYMPOSIUMS  
TAGUNGEN, KONFERENZEN, SYMPOSIEN**

1977

**7th Congress of the Soil Science Society of Southern Africa**, University of Pretoria, 10-14 January 1977.

Mains topics: soil classification, land use and urban development. A special session will be devoted to pollution and disposal of urban and industrial effluents.

*Information:* Soil Science Society of Southern Africa, P.O. Box 1821, Pretoria 0001, South Africa.

**4th International Symposium of Tropical Ecology**, Panamá, 7-11 March 1977.

*Information:* Organizing Committee 4th International Symposium on Tropical Ecology, P.O. Box 662, Panamá 1, Rep. of Panamá.

**United Nations Water Conference**, Mar del Plata, Argentina, 7-18 March 1977.

- Themes:
- Assessment of the world water situation;
  - Potential and limitations of technology;
  - Policy options;
  - Action proposals.

*Information:* Executive Secretary, United Nations Water Conference, United Nations, New York, USA.

**Third International Symposium on Environmental Biogeochemistry**, Herzog August Bibliothek, Wolfenbüttel, BRD, 27 March - 1 April 1977. Co-sponsored by: The International Association of Geochemistry and Cosmochemistry; The Scientific Committee on Problems of the Environment; Deutsche Bodenkundliche Gesellschaft; Deutsche Gesellschaft für Hygiene und Mikrobiologie; Deutsche Ökologische Gesellschaft; German Local Branch of the American Society for Microbiology.

Theme: Biogeochemistry of defined micro-environments in aquatic and terrestrial systems. A field trip to the Harz mountains is planned. It will include the visit to some iron depositing micro-environments, a Pliocene lake environment, and some geological specialities of the Harz. Other trips are planned to the Wadden Sea and the Lake Constance (Bodensee) area. Guided tours of Goslar, the famous library of Wolfenbüttel, and Celle are planned.

*Information:* Prof. Dr. Wolfgang E. Krumbein, Environmental Laboratory AVZ-3-145, Postfach 943, University of Oldenburg, D-2900 Oldenburg, Fed. Rep. of Germany.

**First Agricultural Conference of Muslim Scientists**, College of Agriculture, Riyadh University, Riyadh, Saudi Arabia, April 1977.

Theme: Agricultural problems in arid and semi-arid zones and the role of agriculture in developing Islamic societies.

- Special subjects:
- Studies on salt-affected soils;
  - Effect of desert conditions on productivity of field and horticultural crops;
  - Application of remote sensing in soil and water resource surveys.

*Information:* Secretarial Committee, First Agricultural Conference of Muslim Scientists, College of Agriculture, University of Riyadh, Riyadh, Saudi Arabia.

**Symposium on drought and desertification in Africa**, Addis Abeba, 11-15 April 1977.

Analysis and consequences of drought and desertification in African countries and the evaluation of activities to combat these phenomena at national and regional level.

*Information:* Organization of African Unity, P.O. Box 3243, Addis Abeba, Ethiopia.

**Workshop on Irrigation Development Planning**, Accra, Ghana, 17-30 April 1977 (with particular reference to conditions in Africa South of the Sahara). Organized jointly by the University of Southampton, U.K.; the Government of Ghana Ministry of Agriculture, and with support from the U.K. Ministry of Overseas Development and FAO.

*Information:* Regional Land and Water Development Officer, FAO Regional Office for Africa, P.O. Box 1628, Accra, Ghana.

**7th International Congress on Congress Organization**, Hamburg, 18-21 April 1977. The Congress is sponsored by the Union of International Associations (U.I.A.) and the Association Internationale des Palais de Congrès (A.I.P.C.). The Congress will be mainly devoted to problems of congress organization and to sociological problems of participation.

*Information:* Secretariat, c/o Holland Organizing Centre, 16, Lange Voorhout, The Hague, The Netherlands.

**Symposium on the influence of mechanical equipment and hydraulic infrastructure on the patterns of agricultural enterprise** (including the Analysis of Factors Related to Soil Conditions), Córdoba, Spain, 18-24 April 1977. This symposium is organized in the framework of the C.I.G.R. (Commission Internationale du Génie Rural).

*Information:* Escuela Superior de Ingenieros Agrónomos, Apartado 246, Córdoba, Spain.

**XI European Regional Conference of I.C.I.D.**, Rome, Italy, 7-11 May 1977.

Theme: Small watershed management, with emphasis on small reservoir development (for irrigation and other purposes).

*Information:* Dr. D. Sorrenti, Secretary of the Organizing Committee of the XI European Regional Meeting, Ministry of Agriculture, Via XX Settembre, 20, Rome, Italy.

**Second Meeting of the Working Group on Soil Information Systems**, (Commission V, ISSS), Varna, Bulgaria, 29 May-5 June 1977 (see also ISSS diary).

*Information:* Dr. I. Garbouchev, Organizing Committee of 2nd meeting WGSIS, N. Poushkarov Inst. of Soil Science, 5 Shosse Bankja, Sofia, Bulgaria.

**5th International Meeting on Soil Micromorphology**, Granada, Spain, 24-28 May 1977 (see also ISSS diary).

*Information:* Prof. Dr. D. Miguel Delgado Rodriguez, Dep. de Edafología, Facultad de Farmacia, Univ. de Granada, Spain.

**World Environment Day**, 5 June 1977.

*Information:* UNEP, P.O. Box 30552, Nairobi, Kenya.

**International Symposium on Erosion and Solid Matter Transport in Inland Waters**, Algiers, 20-24 June 1977, sponsored by the International Hydrological Programme of Unesco. The main topics for papers and discussions are:

i. Estimation of erosion and sediment yield parameters in watersheds with deficient sediment data.

- ii. The relationship between source-area erosion and sediment yield (delivery ratios).
- iii. Development of mathematical models for erosion and solid matter transport.
- iv. Study of sediment generation, transport and deposition in semi-arid areas.
- v. Sediment problems related to intake structures and influence of intakes on the sediment regime of rivers.

*Information:* Division of Water Sciences, Unesco, Place de Fontenoye, Paris, France.

**XVI Congresso Brasileiro de Ciencia do Solo**, Sao Luis, MA., 11-16 July 1977.

*Information:* Secretaria Executiva, S.B.C.S., Inst. Agr., C.P. 28, Campinas, SP. - CEP 13.1000, Brazil.

**Third Inter-congress of the Pacific Science Association**, Bali, Indonesia, 18-22 July 1977.

Theme: appropriate technology for development.

*Information:* Pacific Science Association, P.O. Box 6037, Honolulu, Hawaii, 96819, U.S.A.

**Classification and Management of Tropical Soils** (Commissions IV and V, ISSS), Kuala Lumpur, Malaysia, 8-29 August 1977 (see also ISSS diary).

*Information:* Malaysian Society of Soil Science, c/o Soils and Crop Management Division, Rubber Research Inst. of Malaysia, Jalan Ampang, P.O. Box 150, Kuala Lumpur, Malaysia.

**10th Congress of INQUA**, Union Internationale pour l'Etude de Quaternaire, Symposium on Antarctic Glacial History and World Paleoenvironment, Birmingham, U.K., 16-24 August 1977.

*Information:* Secretary General, INQUA, c/o Dept. Geology, Keele University, Keele St. 55 BG, U.K.

**International Symposium on Microbial Ecology**, Dunedin, New Zealand, 22-26 August 1977.

*Information:* Mr. J.C. Senez, 31, Aiguier, 13274 Marseille, Cédex 2, France.

**United Nations Conference on Desertification**, Nairobi, Kenya, 29 August - 9 September 1977.

Assessment of all available data and information on desertification and its consequences on the development process, preparation of a world map of areas affected or likely to be affected by the process of desertification, action plan to combat desertification.

*Information:* U.N. Conference on Desertification, UNEP, P.O. Box 30552, Nairobi, Kenya.

**Symposium on "Soil as a Site Index for Forests of Temperate and Cool Zones** (Commission V, ISSS), Zvolen, Czechoslovakia, 4-11 September 1977 (see also ISSS diary).

*Information:* Prof. Dr. R. Sály, Faculty of Forest Sciences, Stúrova, 96001 Zvolen, CSSR.

**International Symposium on "Soils and Rice"**, International Rice Research Institute, Los Baños, Laguna, Philippines, 20-23 September 1977.

Major topics: Rice soils of the world; genesis, morphology, and classification of rice soils; physical properties of rice soils; chemical and electrochemical changes in rice soils; microbiology of rice soils; fertility of rice soils; management of rice soils; problem rice soils.

*Information:* Dr. F.N. Ponnampuruma, IRRI, P.O. Box 933, Manila, Philippines.



**International Seminar on Soil Environment and Fertility Management in Intensive Agriculture** (Commission IV, ISSS), Tokyo, Japan, 10-17 October 1977 (see also ISSS diary).

*Information:* Prof. K. Kawaguchi, Faculty of Agriculture, Kyoto Univ., Kyoto, Japan.

**6th Congress of the Latin American Society of Soil Science**, Mexico, October 1977.

*Information:* Sociedad Mexicana de la Ciencia del Suelo, Aptdo. postal 45, Chapingo, Mexico.

**42nd Annual Convention, Indian Society of Soil Science**, to be held at the University of Agricultural Sciences, Bangalore, 1977 (dates to be announced).

*Information:* Indian Society of Soil Science, c/o Indian Agricultural Research Institute, New Delhi, 110012, India.

1978

**11th Congress of the International Society of Soil Science**  
**11ème Congrès de l'Association Internationale de la Science du Sol**  
**11. Kongress der Internationalen Bodenkundlichen Gesellschaft**  
Edmonton, Canada, 19-27 June 1978.

Theme: Optimum soil utilization systems under differing climatic restraints.

Thème: Systèmes d'utilisation optimum du sol sous différentes contraintes climatiques.

Thema: Optimale Bodennutzungssysteme bei unterschiedlichen klimatischen Grenzbedingungen.

*Information:* 11th ISSS Congress, Box 98, Sub. 11, University of Alberta, Edmonton, Canada, T6G 2E0.

**Tenth International Congress on Sedimentology**, Jerusalem, Israel, 9-14 July 1978, under the auspices of: International Association of Sedimentologists (IAS); Israel Academy of Sciences and Humanities; Geological Survey of Israel.

Among the themes of the Congress are two topics of special interest to soil scientists, namely

– Sedimentary aspects of geomorphology, paleoclimatology and hydrogeology including duricrusts and paleosols;

– Calcrete, past and present (criteria for recognizing calcrete in ancient sediments; environmental interpretation; age determinations).

Pre – and post – congress excursions in Israel, Cyprus and Turkey.

*Information:* Secretariat, 10th Int. Congress on Sedimentology, P.O. Box 16271, Tel Aviv, Israel.

**Third International Conference on Permafrost**, Edmonton, Alberta, Canada, 10-13 July 1978.

General topics: Permafrost Science and Permafrost Engineering.

*Information:* M.K. Ward, Executive Secretary, c/o National Research Council of Canada, Ottawa, Ontario, Canada K1A 0R6.

**Dixième Congrès des Irrigations et du Drainage**, Athènes, Grèce, 1978.

*Information:* Secrétaire général, I.C.I.D., 48, Nyaya Marg, Chanakyapuri, New Delhi 110021, Inde.

**NEW PUBLICATIONS \*  
NOUVELLES PUBLICATIONS \*  
NEUE VERÖFFENTLICHUNGEN \***

**Podzols and Podzolization**, by Leif Petersen, Thesis, Royal Veterinary and Agricultural University, Copenhagen, Denmark, 1976, 293 p., 29 tables, 50 figures.

This thesis is based upon ten selected podzol profiles in Denmark. After a short introduction on the concept and general properties of podzols, the main part of the book is devoted to the chemical aspects of the soil, especially the chemistry of the organic matter, the Fe-Al compounds, metal-organic matter complexes, water-soluble compounds and solubility interactions between Fe/Al and soil organic compounds. It finishes with a chapter on the simulation of podzolization in the laboratory. It is suggested that podzolization is a result of interactions between Fe and Al compounds on the one hand, and originally water-soluble organic compounds. Hence the formation of such compounds, which have many characteristics in common with the normal humus compounds, is a necessary prerequisite. These compounds may have been formed during the decomposition of plant residues by biological action. This interesting thesis mentions well over 400 references.

*Price:* US \$ 6.75 (Danish Kr. 40.00)

*Orders to:* DSR Forlag, Royal Veterinary and Agricultural University, 40 Thorvaldsenvej, DK 1871 Copenhagen V, Denmark.

International Soil Museum, The Netherlands

**Lehrbuch der Bodenkunde**, von F. Scheffer und P. Schachtschabel, 9. neu bearbeitete Auflage, 1976, ca. 440 s., ca. 160 Abb., Alkorphan geb.

Inhaltsübersicht: Entstehung und Zusammensetzung der Böden – Tonminerale – Organische Substanz – Organo-mineralische Verbindungen – Eigenschaften der Böden: Kationenaustausch – Anionenadsorption – Bodenacidität – Redoxreaktionen – Flockung und Peptisation – Bodengefüge – Bodentemperatur – Bodentemperatur – Bodenfarbe – Nährstoffe – Anorganische Schadstoffe – Verhalten von organischen Bioziden in Böden – Bodengenetik – Prozesse der Bodenentwicklung – Bezeichnung der Bodenhorizonte – Bodensystematik – Böden Mitteleuropas – Böden warmer und/oder kontinentaler Klimate – Böden kalter Klimabiete – Bodenverarbeitung – Bodenbewertung.

In der 9. Auflage des bekannten Lehrbuchs wurde der Kreis der Bearbeiter unter Hinzuziehung von 3 international anerkannten Forschern erweitert. Die einzelnen Kapitel wurden unter Beibehaltung des bisherigen Grundkonzepts neu bearbeitet und inhaltlich erweitert. So wurden bei der Anionenadsorption spezifische Reaktionen stärker in den Vordergrund gestellt, beim Bodengefüge die Grundlagen der Bodenmechanik und beim Bodenwasser die Strömungsmechanik. Neu aufgenommen wurde der Einfluss von Schadstoffen wie Fluor, Blei, Quecksilber, Cadmium und Luftverunreinigungen auf Pflanzen, Tier und Mensch, die Eutrophierung der Gewässer und die Umsetzungen von Bioziden im Boden. Bei den Nährstoffen wird u.a. auf Transportvorgänge im Boden, ihre Verfügbarkeit, Düngung und die Ertragsentwicklung in den letzten 20 Jahren intensiv eingegangen. Die profilprägenden Prozesse der Bodenentwicklung wurden erweitert, sowie einprägsame Profilzeichnungen und grafische Darstellungen wichtiger Eigenschaften der Bodentypen eingefügt. Neu aufgenommen wurden die Bodenverbreitung mit Bodenkarten Mitteleuropas und der Erde.

*Preis:* DM 68.

*Bestellungen:* Ferdinand Enke Verlag, D-7000 Stuttgart 1, Postfach 1304, BRD.

**Peat in Horticulture**, by D.W. Robinson and J.G.D. Lamb (Editors), Academic Press, 1975, 170 p.

With an estimated 150 million hectares in the world, ranging from the tropics to the Arctic tundra, peatlands are of importance in many respects. The book under review deals mainly with the use of peat for fieldcrops, protected crops, hardy nursery stock and the preparation of loamless composts. The concise background information on the origin, formation and distribution of peat and on its physical, chemical and microbiological properties is useful. The book also contains chapters on lime and fertilizer requirements, weed control and mechanization. Attention is only given to the temperate regions in the world. The book is valuable for students and practicing growers.

*Price:* L. 5.40 or \$ 14.000.

\* Titles of new publications are listed here for information. Orders can however not be handled by the ISSS Secretariat but should be placed through a bookstore or directly with the publishers.

\* Les titres de nouvelles publications sont mentionnés à titre d'information. Le Secrétariat de l'AISS ne peut toutefois pas se charger de commandes, celles-ci devant être adressées à une librairie ou directement aux éditeurs.

\* Die Titel neuer Veröffentlichungen sind hier zur Information angeführt. Bitte richten Sie Ihre Bestellungen nicht an das IBG Sekretariat sondern an den Buchhandel oder direkt an die Verlage.

**Methods and Perspectives in Geography**, by J. Beaujeu-Garnier, Longman, 1976, 150 p.

This interesting book by Prof. Beaujeu-Garnier of the Sorbonne University has now been translated into English. It discusses the content of physical and human geography, illustrating their high degree of interdependence. Both traditional and modern methodologies of geography are examined. The book is useful as an introductory text for university students in geography.

*Price:* L. 3.40.

International Soil Museum, The Netherlands

**Revised Johnson Slide Set**

The Johnson slide set illustrating the United States Soil Classification System issued originally May 1968 will be reissued. This set sponsored and distributed by the Western Regional Soil Survey Work Group has been expanded from 46 to 65 slides with 12 of the original slides replaced with better examples.

The slide set will cost \$ 32. A set of replacement and added slides for the original set issued in May 1968 will cost \$ 16. Orders from outside the United States and Canada should add \$ 2 for postage costs.

*Orders to:* Dr. M.A. Fosberg, Department of Plant and Soil Science, University of Idaho, Moscow, Idaho 83843, USA.

**De Nederlandse bodem in kleur**, by H. de Bakker and A.W. Edelman-Vlam, 216 p., 32 colour photographs, 27 black and white photographs, Stichting voor Bodemkartering en Centrum voor Landbouw publikaties en Landbouwdocumentatie, Wageningen, 1976.

This publication, in Dutch language, is devoted to the description and analysis of 32 major soil groups of the Netherlands and to their relationships with land use and landscape characteristics. Each soil is illustrated by a full page colour photograph while the related landscapes are shown by oblique black and white aerial photographs. The profiles selected are representative examples of the five soil orders in the Netherlands soil classification. They provide a cross section of the important parent materials and offer a geographical overview of the soils of the country. Literature references are subdivided according to the different soils and landscapes dealt with. References are also included about the preparation of monoliths. This remarkably illustrated and comprehensive review of Netherlands soils is a valuable asset to soil science as a whole. An English edition is also in preparation.

*Price:* D.fl. 35.

*Orders to:* Stichting voor Bodemkartering, P.O. Box 98, Wageningen, The Netherlands.

**Soil Map of England and Wales, scale 1 : 1 000 000**, with explanatory text. Made and published by the Director General of the Ordnance Survey, Southampton, for the Soil Survey of England and Wales.

A soil map of England and Wales at 1 : 1 000 000 has been constructed from information accumulated over a period of about fifty years, during which time soil surveys at a variety of scales from 1 : 10 000 to 1 : 250 000 have been completed in many parts of the country. Large gaps have been filled by extrapolating from geological, relief, and vegetation maps, on the basis of knowledge of the way soil distribution is governed by these controls. The choice of map scale was influenced by a request from the Food and Agriculture Organization to contribute a soil map of England and Wales to their European soil map project at 1 : 1 000 000 scale. This scale accords with the degree of confidence concerning knowledge of soil distribution in unmapped terrain.

The 1 : 1 000 000 map of England and Wales shows the distribution of seventy-one soil associations and has an extended explanatory legend including summarized definitions of terms used to define kinds of soil.

The soil groups identified as dominant or subdominant components of the associations are defined by subdivision of seven major groups. Soil groups are differentiated partly by the composition of the soil material in terms of the proportions of organic matter, calcium carbonate and differently sized mineral particles, and partly by the presence or absence of distinctive surface or sub-surface horizons resulting from alteration of the original material by soil forming processes. Soils in recent alluvium are also distinguished from similar soils in other deposits.

A generalized land capability map of Britain can be constructed from the national map, to give planners a broad appreciation of the distribution of land classes, the suitability of land for cropping and its limitations.

*Orders to:* Ordnance Survey, Romsey Road, Maybush, Southampton SO9 4DH, U.K.

**Soil Taxonomy, a basic system of soil classification for making and interpreting soil surveys**, by the Soil Survey Staff, U.S. Department of Agriculture, Handbook No. 436, U.S. Government Printing Office, Washington, D.C., 754 p., 1975.

When in the late forties soil survey work in the United States and in many other countries was extended, it appeared that the soil classification which had been used up to then was inadequate in precision for the demands being made of it. It was recognized that more precise categories were needed in order to make quantitative and reliable interpretations for soil surveys. In 1951 the United States Soil Survey Staff started work on a new soil classification system. The authors, the Soil Survey Staff, included a group of soil scientists making and interpreting soil maps in the U.S. Department of Agriculture, land grant universities, and many foreign countries. The classification effort proceeded through a series of approximations, the best known of which is the

7th approximation which was presented to the 7th Congress of the International Society of Soil Science at Madison, Wisconsin. Soil Taxonomy was adopted for use in the United States on 1 January 1965 at which time 8 000 soil series were known to occur in the U.S.A. as compared with 5 500 series which had been recognized in 1951. Soil Taxonomy is designed to enhance the prediction that can be made about the behaviour of soils in accordance with its relations to other kinds of soils for which knowledge from research or experience is available.

The first six chapters of Soil Taxonomy present general principles and concepts and give cross references for definitions of selected criteria. Next, a chapter is devoted to each of the ten orders. The remaining four chapters discuss family and series differentiae and names, application to soil surveys, soils of the United States, and relation to other taxonomies. There are four appendices, terms used to describe soils, descriptions and data for 130 pedons. This publication also includes 48 colour plates of representative soil profiles and soil features.

The ideas presented in Soil Taxonomy have come from many individuals from the United States and from soil scientists in many other countries. It is a major contribution to the knowledge of the soils of the United States and to the development of soil classification as a distinct field of soil science.

*Price:* US \$ 15.50 for orders from the USA and US \$ 21.88 (post paid) for orders from outside the USA.

*Orders to:* Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, USA.

**Soil Science and Archeology**, by Susan Limbrey, Department of Ancient History and Archeology, University of Birmingham, U.K., 1975, 342 p.

This book is written for archaeologists at all levels; it explains the processes that go on in soils, how these affect the preservation of materials in the soil, and how they result in the development of characteristic soil profiles. Soil profiles and their distribution can be linked to other environmental factors, both natural and man-influenced. The book reviews soils from Britain and other parts of the world under this aspect. The final section of the book is designed to meet the field archaeologist's need for guidance in surveying, describing and interpreting soils and sediments as met with in excavations, but the volume as a whole is of use also to others such as soil scientists and geographers who seek to know how archaeology can augment their own work with soils.

*Price:* L. 8.40 - \$ 21.75.

*Orders to:* Academic Press, 24-28 Oval Road, London NW1, England, or: 111 Fifth Avenue, New York, N.Y. 10003, U.S.A.

**Trace Elements in Soil-Plant-Animal Systems**, edited by D.J.D. Nicholas and A.R. Egan, Waite Agricultural Research Institute, University of Adelaide, Glen Osmond, South Australia, 1975, 426 p.

This book contains the proceedings of a symposium of the Waite Agricultural Research Institute of the University of Adelaide. The invited papers embrace studies on aspects of trace element chemistry and biology, arranged in the following sections: the geodistribution, mineralogy and geochemistry of trace elements; availability in soil; uptake by and movement in plants; biochemical functions in plants and animals; and the detection and correction of trace elements disorders affecting plant and animal health and production.

*Price:* \$ 19.50/L. 9.75.

*Orders to:* Academic Press, Inc., 111 Fifth Avenue, New York, N.Y. 10003, U.S.A.; or 24-28 Oval Road, London NW1 7DX, U.K.

**Proceedings of the Third International Symposium on Soil Conditioning**, held in Ghent, Belgium, in 1975 by the ISSS Working Group on Soil Conditioning, 66 papers, 464 p. (see Bulletin No. 48).

*Price:* 1500 Belgian Francs.

*Orders to:* Prof. Dr. Ir. M. De Boodt, International Symposium Soil Conditioning, Coupure Links 533, 9000 Ghent.

**Pflanzen diagnose und Pflanzenanalyse zur Ermittlung von Ernährungsstörungen und des Ernährungszustandes der Kulturpflanzen**, herausgegeben von Prof. Dr. sc. agr. Werner Bergmann und Dr. agr. Peter Neubert, Institut für Pflanzenernährung Jena der Akademie der Landwirtschaftswissenschaften der DDR, 1976, 700 S. 28 Abb., 5 Übersichten, 23 Tab., 519 Farbbilder, 114 Tab. zur Pflanzenanalyse, Leinen.

In diesem Buch werden im ersten Teil zum Erkennen, zur Unterscheidung sowie zum Verhüten von mineralstoffbedingten Schadsymptomen bei akuten und latenten Ernährungsstörungen der Pflanzen ausführliche Angaben gemacht. Anhand von 519 Farbbildern werden mineralstoffbedingte Mangel- und Überschusssymptome an Kulturpflanzen demonstriert. Zusammenhänge zwischen der Mineralstoffernährung der Kulturpflanzen und ihrer Resistenz gegenüber Krankheitserregern und Schädlingen werden aufgezeigt. Im zweiten Teil werden Fragen und Probleme der Pflanzenanalyse abgehandelt und der Einfluss der pflanzen- sowie standort eigenen Faktoren erörtert, die den Mineralstoffgehalt der Pflanzen und damit ihren Ernährungszustand beeinflussen. Den Abschluss bildet ein umfangreiches Tabellenwerk, in dem für landwirtschaftliche und gärtnerische Kulturpflanzen Mineralstoff- Grenzwertbereiche zum Erkennen von unzureichender und ausreichender Ernährung der Pflanzen zusammengestellt worden sind.

*Preis:* 91 M.

*Bestellungen:* VEB Gustav Fischer Verlag, Jena, DDR.

**Proceedings of the Fifth Congress of the Yugoslav Society of Soil Science**; papers in Yugoslav, English, Russian, French, German, with English summaries, 1976, 472 p.  
*Orders to:* Yugoslav Society of Soil Science, 11080 Zemun, Nemanjina 6, fah 127 Yugoslavia.

**Gleboznawstwo rolnicze** (Landwirtschaftliche Bodenkunde), von Prof. Dr. Hjalmar Uggla, polnisch, 540 S., Literatur- und Stichwortverzeichnis, Karte "Polnische Böden" (1:500 000).  
*Bestellungen:* Prof. Dr. Hjalmar Uggla, Ul. Dworcowa 45 m 4, 10-437 Olsztyn, Polen.

**Pedogeografická Regionalizace CSR**, by Josef Pelisek and Dagmar Sekaninová, Czechoslovak Academy of Sciences, Institute of Geography, Brno, 1975, 168 p., with summaries in English and Russian.

This book describes the soil geography of the Czech Socialist Republic. The authors developed a natural-historical and genetic soil classification according to which they group the soil units described in this book. Their studies are reflected in 2 maps showing the pedogenetic soil associations and the granulometric associations of the Czech Socialist Republic (1:500 000). The authors call attention to the vertical zonality of soils which characterizes soil associations in the region which they studied. They conclude that from the lowlands to the mountains granular associations are characterized by a lower clay content. They furthermore outline a number of relationships between the geographical characteristics and the pedogenetic associations.

*Orders to:* Geografický ústav CSAV, Mendlovo nám. 1, 662 82 Brno, Czechoslovakia.

**Phosphorus in Agriculture, Special Issue No. 66, ISMA, Paris, 1975, 41 p.**

A special issue devoted to a glossary on fertilizer use. The glossary furthermore gives translations in French, German and Spanish. It covers a series of general terms of forms of inorganic fertilizer including solid, fluid and gaseous fertilizers and methods of application. An index in the four languages facilitates retrieval and reference.

*Orders to:* ISMA, 1, Avenue Franklin D. Roosevelt, 75008 Paris, France.

**Irrigation on Field and Orchard Crops Under Semi-Arid Conditions**, compiled and edited by J. Shalhevet, A. Mantell, H. Bielorai, D. Shimshi, International Irrigation Information Center Publication No. 1, 1976, 110 p.

Irrigation of Field and Orchard Crops Under Semi-Arid Conditions is a summary of field experiments conducted in Israel during the period 1954-1974. The purpose of the experiments was to establish the optimum irrigation regime for various field and orchard crops and to increase water use efficiency. The studies were carried out in the five main ecological regions of Israel, under a variety of soil and climatic conditions. The climatic conditions were characterized by a warm, dry summer and a cool, rainy winter, with a mean August temperature range of 23 to 32°C, a mean August potential evaporation range of 7 to 10 mm/day and winter (November to April) rainfall range of 230 to 620 mm.

For each crop, data is given on the production function of yield vs. water application, evapotranspiration rate, optimum irrigation regime and pattern of water uptake from the root zone. By judicious application of the results and conclusions, a suitable irrigation program can be planned for these crops in other regions of similar climatic conditions.

*Orders to:* IIIC, Volcani Center, P.O.B. 49, Bet Dagan, Israel, or IIIC, P.O.B. 8500 Ottawa, KIG 3H9, Canada.

**Jordarter, jordsmonn og landskap i farger**, by Av. J. Låg, 99 p., 154 color photographs, Landbruksforlaget, Oslo 1976. (Soil, soil profiles and landscapes in colour).

This publication is a comprehensive review of the major soils of Norway. The introductory text deals with the parent materials, genesis, classification, and production potential of Norwegian soils. The major part of the book, however, is devoted to a remarkable series of 154 color photographs of soil landscapes in Norway and of representative profiles. The text is in Norwegian, but the captions of the photographs are also given in English. This small publication provides an excellent and richly illustrated overview of the soils of Norway.

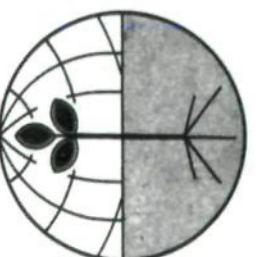
*Orders to:* Institute of Soil Science, Agricultural University of Norway, 1432 AS - NLH, Norway.

**Soils of the Southern Cotswolds**, by D.C. Findlay, Harpenden, 1976, 252 p., soil map of Malmesbury and Bath.

This book describes soils and land use in south Gloucestershire, North-west Wiltshire and Avon. Two types of farming can be distinguished mainly determined by soil properties: dairying on permanent grass in the vales and arable on the Cotswolds. Introductory chapters give an account of the physical environment, land use and soil classification. Detailed descriptions of the soils follow with a discussion of the analytical data. Land capability, soil management and drainage are treated in a final chapter. The properties of importance to the agricultural capability of the Sherborne series, the most extensive arable soil on the Cotswold dip slope, are discussed in an appendix.

*Price:* L 7 net.

*Orders to:* The Soil Survey, Rothamsted Experimental Station, Harpenden, Hertfordshire, England.



## **AN EMBLEM FOR THE ISSS**

Following the request made in Bulletin No. 47 (June 1975), 13 submissions for an ISSS emblem were received. They are reproduced here and have been sent to the members of the Council for the selection of the winning symbol. It was not possible to consult all members separately but those who would like to express their opinion could write to their representative in the ISSS Council. The deadline for the Council's selection is 1 May 1977.

## **UN EMBLÈME POUR L'AISS**

A la suite d'un appel publié dans le Bulletin no. 47 (juin 1975) 13 maquettes d'un emblème pour l'AISS ont été reçues au Secrétariat. Elles sont reproduites ci-jointes et ont été soumises aux membres du Conseil pour la désignation du symbole choisi. Il n'a pas été possible de consulter tous les membres individuellement mais ceux qui désiraient exprimer leur opinion peuvent s'adresser à leur représentant au Conseil de l'AISS. La date limite pour le choix du Conseil est le 1 mai 1977.

## **EIN EMBLEM FÜR DIE IBG**

13 eingesandte Vorschläge für ein IBG-Emblem waren das Ergebnis des Aufrufes in den Mitteilungen Nr. 47 (Juni 1975). Diese Vorschläge, die wir Ihnen hier vorstellen, wurden an die Mitglieder des Beirates zur Auswahl des geeignetsten Entwurfes gesandt. Es ist leider nicht möglich, die Meinung aller Mitglieder der Gesellschaft einzuholen; wer sich jedoch an der Wahl beteiligen möchte, kann dies durch seinen Vertreter im IBG-Beirat tun. Letzter Termin für die Auswahl durch den Beirat ist der 1. Mai 1977.

---

## **COMMITTEE ON RULES**

Under the chairmanship of Dr. Hallsworth the Committee on Rules concluded its work at its meeting held at Ghent, Belgium, on 23 June 1976. A revised draft of ISSS rules, taking into account the suggestions received from members and national societies, is now being translated into the three languages of the Society and will be distributed for membership's review with Bulletin No. 51 (June 1977).

## **COMITÉ DU RÈGLEMENT**

Sous la présidence du Dr. Hallsworth le Comité du Règlement à terminé ses travaux lors de sa réunion à Gand, Belgique, le 23 juin 1976. Un nouveau projet du règlement a été préparé en tenant compte des amendements proposés par les membres et les associations nationales. Ce texte est à la traduction dans les trois langues de l'association et sera soumis à l'appréciation des membres lors de la parution du Bulletin no. 51 (juin 1977).

## **SATZUNGSKOMITEE**

Unter dem Vorsitz von Dr. Hallsworth hat das Satzungskomitee seine Arbeit auf der Sitzung in Gent, Belgien, am 23. Juni 1976 abgeschlossen. Der neue Entwurf der IGB-Satzungen, der die von Mitgliedern und nationalen Gesellschaften gemachten Vorschläge berücksichtigt, wird jetzt in die drei Sprachen der Gesellschaft übersetzt und wird den Mitgliedern der Gesellschaft mit den Mitteilungen Nr. 51 (Juni 1977) zur Begutachtung zugesandt.

# standard soil color charts

- All soil colors can be measured by hue, value, and chroma of the **MUNSELL NOTATION SYSTEM**.
- 12 color charts contain 389 colors and 17 neutrals in 23 hues.
- The charts and explanations in English, French and Japanese fitted into a looseleaf binder.

## SPECIAL PRICE FOR MEMBERS ONLY

US\$ 27, Postage included  
to be paid in advance

Orders to: Fujihira Industry Co., Ltd.  
11, Hongo 6-Chome  
Bunkyo-Ku, Tokyo, Japan  
Cable: VETFHK, Tokyo

---

## SOIL INFORMATION SYSTEMS

Proceedings of the meeting of the ISSS Working Group on Soil Information Systems held at Wageningen, The Netherlands, 1-4 September, 1975, 93 pages.

**Edited by:** Stein W. Bie  
**Published by:** Centre for Agricultural Publishing and Documentation  
Wageningen, The Netherlands

Computer-aided soil information systems allow powerful analysis of the state of our soil resources. Soil survey generates large numbers of descriptions, tables and maps. New techniques of data handling and spatial analysis now enable all data to be stored and processed so that the user can get more specific soil information.

Under the auspices of the International Society of Soil Science and the Food and Agriculture Organization of the United Nations, designers of soil information systems, and their geological, geographical and cartographic colleagues reviewed current methods of data capture and input, management systems for advanced data bases and automated cartography, and discussed user needs in developed and developing countries.

**Price US \$ 6.00 (post paid)**

Available from: Secretary General, ISSS c/o FAO, Via Terme di Caracalla - 00153 Rome, Italy  
Payable in advance by cheque, money order or as Unesco coupons, to the order of R. Dudal International Society of Soil Science.



**GROUP TRAVEL  
VOYAGE EN GROUPE  
GRUPPENREISEN**  
(see p. 46; voir p. 46; siehe S. 46)

I am interested – without any commitment at this stage – in group travel arrangements to:

*J'aimerais être informé – sans engagement de ma part – des conditions d'un voyage en groupe à:*

Ich bitte um unverbindliche Information über Gruppenreisen nach:

**1. Conference: Classification and Management of Tropical Soils, Malaysia, Kuala Lumpur 15-21 August 1977.**

I will (not) take part in the pre-conference excursion, 8-14 August 1977;  
I will (not) take part in the post-conference excursion, 22-28 August 1977.

*Je (ne) prendrai (pas) part à l'excursion avant la conférence, 8-14 août 1977;  
Je (ne) prendrai (pas) part à l'excursion après la conférence, 22-28 août 1977.*

Ich werde an der Exkursion vor dem Kongress, 8.-14. August 1977  
Ich werde an der Exkursion nach dem Kongress, 22.-28. August 1977  
(nicht) teilnehmen.

Airport of departure:

*Au départ de l'aéroport de:* . . . . .

Abflug von Flughafen:

I am (not) interested in touristic stop-over (s) when going to  or when returning from  the conference.

*Je (ne) serais (pas) intéressé à une (des) escale (s) touristiques à l'aller  ou au retour  de la conférence.*

Ich möchte die Hinreise zu  oder die Rückreise von  der Konferenz einmal (mehrmals) (nicht) unterbrechen.

**2. Seminar: Soil Environment and Fertility Management in Intensive Agriculture, Japan, Tokyo 10-17 October 1977.**

Airport of departure:

*Au départ de l'aéroport de:* . . . . .

Abflug von Flughafen:

I am (not) interested in touristic stop-over(s) when going to  or when returning from  the conference.

*Je (ne) serais (pas) intéressée à une (des) escale(s) touristiques à l'aller  ou au retour  de la conférence.*

Ich möchte die Hinreise zu  oder die Rückreise von  der Konferenz einmal (mehrmals) (nicht) unterbrechen.

Name/Nom: . . . . .

Address/Adresse: . . . . .  
. . . . .  
. . . . .

Please return to: **Secretary General, ISSS,**  
*A renvoyer à:* **c/o FAO,**  
Anschrift: **Via Terme di Caracalla**  
**00153 Rome, Italy**

## **PROF. DR. A.A.J. DE' SIGMOND 1873-1939**

Vol. 23 of *Agrochemistry and Soil Science*, Budapest 1974. 238 pages.

Dedicated to the work and memory of Prof. Dr. A.A.J. DE' SIGMOND on the occasion of the centenary of his birth. 27 papers on alkaline and saline soils, their analysis, survey, reclamation, fertility, mineralogy. Bibliography of De' Sigmond's publications.

**Price US \$ 6.00 (post paid)**

Available from: Secretary General, ISSS c/o FAO, Via Terme di Caracalla - 00153 Rome, Italy

Payable in advance by cheque, money order or as Unesco coupons, to the order of R. Dudal, International Society of Soil Science.

---

## **SYMPOSIUM on the RECLAMATION of SODIC and SODA-SALINE SOILS**

Yerevan, 21-31 May 1969  
ISSS Sub-Commission on Salt Affected Soils  
Ministry of Agriculture of the Armenian SSR

*Agrochemistry and Soil Science*, Vol. 18, Budapest, 392 pages.

**Price US \$ 9.00 (post paid)**

Available from: Secretary General, ISSS c/o FAO, Via Terme di Caracalla - 00153 Rome, Italy

Payable in advance by cheque, money order or as Unesco coupons, to the order of R. Dudal, International Society of Soil Science.

**Sub-Commission/Sous-Commission/Subkommission - Chairman/Président/Vorsitzender**

**Salt affected soils/Sols salins/Salzböden**

Dr. I. Szaboles, Research Institute of Soil Science and Agricultural Chemistry,  
Herman Ottó út 15, Budapest II, Hungary

**Working Groups/Groupes de Travail/Arbeitsgruppen**

**Micromorphology/Micromorphologie/Mikromorphologie**

Prof. Dr. G.K. Rutherford, Department of Geography,  
Queen's University, Kingston, Ontario, Canada  
Dr. Ir. A. Jongerius (Secretary), Soil Survey Institute, P.O. Box 98  
Wageningen, The Netherlands

**Sub-Groups/Sous-Groupes/Subgruppen**

**Organic matter/Matière organique Organische Substanz**

Dr. P. Bullock, Soil Survey of England and Wales, Rothamsted Exp. Station,  
Harpenden, Herts, England. AL5 2 JQ

**Weathering and new-formation/Altération et néo-formation/  
Verwitterung und Neubildung**

Dr. G. Stoops, Geol. Inst., Rijksuniversiteit, Rozier 44, 9000 Gent, Belgique

**Soil conditioning/Stabilisation de la structure du sol/Bodenstrukturverbesserung**

Prof. Dr. M.F. de Boodt, State Agricultural University, Coupure 533, 9000 Gent, Belgique

**Classification and nomenclature of Gley and Pseudogley soils/  
Classification et nomenclature de sols à Gley et à Pseudogley/  
Klassifikation und Nomenklatur von Gley- und Pseudogleyböden**

Prof. Dr. E. Schlichting, Inst. für Bodenkunde, 7000 Stuttgart-Hohenheim,  
Bundesrepublik Deutschland

**Soil information systems/Informatique en pédologie/Informationssysteme  
in der Bodenkunde**

Dr. Ir. J. Schelling, Soil Survey Institute, P.O. Box 98, Wageningen, The Netherlands

**Application of remote sensing/Application de la télédétection/  
Anwendung von Fernerkundung**

Dr. I.S. Tolchelnikov, Laboratory for Aerophotomethods, Leningrad B-164,  
Birzevoi proezd, 6, U.S.S.R.

**Cryogenic soils/Sols cryogènes/Kryogene Böden**

Prof. Dr. O.V. Makeev, Institute for Agrochemistry and Soil Science, Pouchino - Oka,  
Serpuchov Region, Moskovskaja Oblas, U.S.S.R.

**Forest soils/Sols forestiers/Waldböden**

Dr. R. Sály, Visoka skola Lesnika, Zvolen, Czechoslovakia

**Committee on rules/Comité du règlement/Satzungskomitee**

Dr. E. G. Hallsworth (Chairman), CSIRO, Land Resources Laboratories, Private Bag 2,  
Glen Osmond, S.A. 5064

Prof. Dr. P. Buringh, Dr. I.P. Garbouchev, Prof. Dr. E. Schlichting and

Prof. Dr. R. Tavernier (Members)

Dr. R. Dudal (Secretary), c/o IAO, Via delle Terme di Caracalla, 00153 Roma, Italia

### **ISSS Membership**

Membership of the International Society of Soil Science is open to all persons and institutions engaged in the study and the application of soil science. Membership applications can be addressed to the National Societies or directly to the Secretariat General. The yearly subscription, due each January, is 3 US dollars, or equivalent in any other convertible currency. In order to reduce bank charges it is recommended that subscriptions be remitted, whenever possible, through medium of the National Societies. Individual payments can be made by cheque, by international money order or by direct transfer into the ISSS bank account. Unesco coupons are also accepted.

The low subscription fee aims at making the Society accessible to all those interested in participating in its activities. Voluntary contributions by sponsors of the Society will be highly appreciated and acknowledged in the Bulletin.

**Account: R. Dudal, International Society of Soil Science, 95214/01  
Banca Commerciale Italiana, FAO Branch, Rome, Italy**

### **Adhésion à l'AISS**

Toutes personnes et institutions engagées dans l'étude et l'application de la science du sol peuvent adhérer à l'Association internationale de la science du sol. Les demandes d'inscription peuvent être faites par l'intermédiaire des associations nationales ou adressées directement au Secrétariat général. La souscription annuelle, due au mois de janvier, est de 3 dollars F.U. ou son équivalent dans une autre monnaie convertible. En vue de réduire les frais de banque il est recommandé, dans la mesure du possible, de faire parvenir les souscriptions par l'intermédiaire des associations nationales. Les versements individuels peuvent être faits au moyen d'un chèque, d'un mandat international ou par transfert direct au compte en banque de l'Association. Des coupons Unesco peuvent également être utilisés.

Le montant peu élevé de la cotisation vise à rendre l'Association accessible à tous ceux qui sont intéressés à prendre part à ses activités. Des contributions volontaires, qui permettraient de promouvoir l'Association, seront les bienvenues et mention en sera faite dans le Bulletin.

**Compte: R. Dudal, International Society of Soil Science, 95214/01  
Banca Commerciale Italiana, Branche FAO, Rome, Italie**

### **IBG-Mitgliedschaft**

Die Internationale Bodenkundliche Gesellschaft heisst Personen und Institute, die auf dem Gebiet der Forschung und Anwendung der Bodenkunde arbeiten, als Mitglieder willkommen. Aufnahmeanträge können direkt an das Generalsekretariat der Gesellschaft geschickt oder über die nationalen Bodenkundlichen Gesellschaften an dieses geleitet werden. Der jährliche Mitgliedsbeitrag, der jeweils im Januar zu entrichten ist, beträgt 3 US-Dollar oder den Gegenwert in einer konvertierbaren Währung. Um die Bankkosten niedrig zu halten, sollten Beiträge wo möglich durch die nationalen Gesellschaften gezahlt werden. Einzelzahlungen können durch Scheck, internationale Postanweisungen oder direkt auf das Konto der Gesellschaft erfolgen. Unesco-Kupons werden auch akzeptiert.

Durch den niedrigen Mitgliedsbeitrag wird allen Interessenten die Möglichkeit gegeben, an der Tätigkeit der Gesellschaft teilzunehmen. Freiwillige Beiträge zur Unterstützung der Gesellschaft sind herzlich willkommen und werden in den Mitteilungsblättern erwähnt.

**Konto: R. Dudal, International Society of Soil Science, 95214/01  
Banca Commerciale Italiana, FAO Branch, Rom, Italien**